

DESIGN TEAM

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PROJECT
LAKE DUNLAP
I-35 BOAT RAMP REPLACEMENT

PROJECT NO: 1111298 DATE: 03/28/2025

INDEX OF DRAWINGS

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BUILDING CODE SUMMARY

A. INTERNATIONAL CODE COUNCIL ADOPTIONS*	
1. BUILDING CODE	INTERNATIONAL BUILDING CODE 2021
2. STRUCTURAL CODE	INTERNATIONAL BUILDING CODE 2021
3. PLUMBING CODE	INTERNATIONAL PLUMBING CODE 2021
4. MECHANICAL CODE	INTERNATIONAL MECHANICAL CODE 2021
5. GAS CODE	INTERNATIONAL FUEL GAS CODE 2021
6. RESIDENTIAL CODE	INTERNATIONAL RESIDENTIAL CODE 2021
7. EXISTING BUILDINGS	INTERNATIONAL EXISTING BUILDINGS CODE 2021
* International Fire Code omitted in lieu of TPWD's implementation of National Fire Protection Association codes.	
B. NATIONAL FIRE PROTECTION ASSOCIATION	
1. ELECTRICAL CODE	NATIONAL ELECTRIC CODE, NFPA-70 2023
2. FIRE CODE	NFPA - 1 2015
3. LIFE SAFETY CODE	NFPA - 101 2015
C. ENERGY	
1. ENERGY*	INTERNATIONAL ENERGY CONSERVATION CODE 2021
*Energy Standard for State-funded Buildings, ASHRAE/IESNA Standard 90.1 (2013) omitted in lieu of INTERNATIONAL ENERGY CONSERVATION CODE 2021	
D. WATER	
1. WATER SUPPLY	TEXAS ADMIN CODE - TITLE 30, PART 1, CHAPTER 290
2. LANDSCAPE IRRIGATION	TEXAS ADMIN CODE - TITLE 30, PART 1, CHAPTER 344
3. ON-SITE SEWAGE	TEXAS ADMIN CODE - TITLE 30, PART 1, CHAPTER 217
E. ACCESSIBILITY CODES	
1. U.S. DEPT. OF JUSTICE, 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN	
2. ARCHITECTURAL BARRIERS ACT ACCESSIBILITY GUIDELINES; OUTDOOR DEVELOPED AREAS 2015	
3. 2012 TEXAS ACCESSIBILITY STANDARDS, ELIMINATION OF ARCHITECTURAL BARRIERS, TEXAS GOVERNMENT CODE, CHAPTER 469	
F. PLAYGROUND SAFETY CODE	
1. ASTM F1487-17, STANDARD CONSUMER SAFETY PERFORMANCE SPECIFICATIONS FOR PLAYGROUND EQUIPMENT FOR PUBLIC USE	
2. ASTM F2223-15, STANDARD GUIDE FOR ASTM STANDARDS ON PLAYGROUND SURFACING	

SCOPE OF WORK

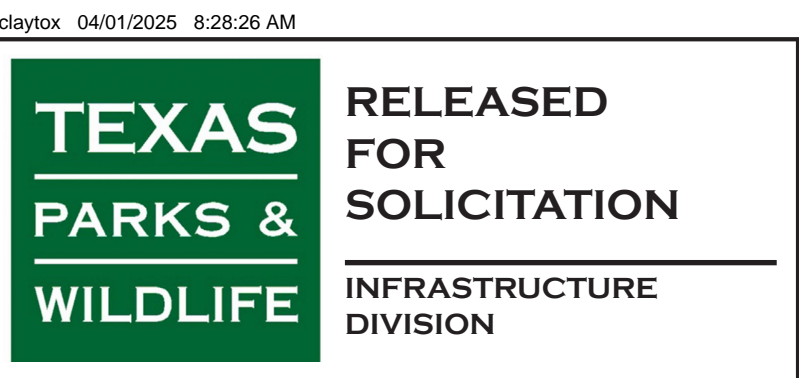
REPLACE EXISTING RAMP WITH NEW INSET BOAT RAMP. IMPROVE LAUNCHING, DOCKING, AND ACCESSIBILITY BY PROVIDING A COURTESY DOCK.



TEXAS PARKS AND WILDLIFE

INFRASTRUCTURE DIVISION

4200 SMITH SCHOOL ROAD · AUSTIN, TEXAS 78744-3292



GENERAL:




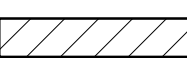



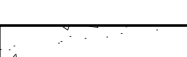





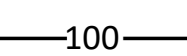

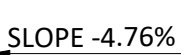

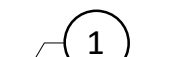



- OMISSIONS FROM THE DRAWINGS OR SPECIFICATIONS, OR THE MISDESCRIPTION OF DETAILS OF WORK WHICH ARE MANIFESTLY NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED OR MISDESCRIBED DETAILS OF THE WORK, BUT THEY SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND SPECIFICATIONS FURNISHED TO HIM IMMEDIATELY UPON THEIR RECEIPT AND SHALL PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. THE CONTRACTOR SHALL REVIEW ALL DRAWINGS AND VERIFY DIMENSIONS BEFORE LAYING OUT THE WORK AND WILL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY.
- THE UTILITY LOCATIONS SHOWN ON THESE DRAWINGS ARE CONSIDERED APPROXIMATE AND WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE INCLUDING GENERAL TOPOGRAPHIC SURVEY. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THAT SHOWN AND THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THEIR LOCATIONS, GRADES, AND DIMENSIONS PRIOR TO STARTING ANY WORK THAT COULD DISTURB THEM. THE CONTRACTOR SHALL CONTACT ALL AFFECTED UTILITIES 48 HOURS PRIOR TO CONSTRUCTION.
- WRITTEN DIMENSIONS AND COORDINATES SHALL GOVERN OVER SCALED DRAWINGS.
- ALL DIMENSIONS SHOWN ARE TO FEATURE LINES UNLESS OTHERWISE SPECIFIED.
- ALL NORTHING AND EASTING COORDINATE POINTS ARE TO BE THE CENTERPOINT, CORNER INTERSECTION, CENTER OF POLE, FENCE POST OR SIGN AND ALONG THE DESIGNATED CENTERLINES.
- PRIOR TO BEGINNING CONSTRUCTION, A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES FROM ALL CONTRACTORS, THE ENGINEERS AND THE TEXAS PARKS AND WILDLIFE DEPARTMENT. THE CONTRACTOR SHALL VIDEO RECORD THE ENTIRE PROJECT SITE TO DOCUMENT EXISTING CONDITIONS AND SUBMIT TO THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROCURING AND MUST OBTAIN PRIOR TO CONSTRUCTION, ALL LEGALLY REQUIRED PERMITS AND LICENSES, PAY ALL CHARGES AND FEES, GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK, AND ARRANGE FOR ALL INSPECTIONS, PER THE CONTRACT DOCUMENTS.
- PRIOR TO BEGINNING OF CONSTRUCTION THE CONTRACTOR SHALL MEET WITH TPWD AND TXDOT TO COORDINATE A LOCATION AND LIMITS OF LAYDOWN AREA.
- THE CONTRACTOR IS RESPONSIBLE FOR SECURING ACCESS TO THE CONSTRUCTION SITE, SUBJECT TO APPROVAL FROM THE TEXAS PARKS AND WILDLIFE DEPARTMENT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING WORK AREA IN A SAFE CONDITION EXCLUDING VISITORS FROM UNSAFE AREAS.
- THE CONTRACTOR IS RESPONSIBLE FOR SECURING ACCESS TO THE CONSTRUCTION SITE AND WORK AREAS DURING NON-WORKING HOURS.
- CONTRACTOR MUST EXERCISE CAUTION WORKING AROUND EXISTING BRIDGE COLUMNS, FOOTINGS, AND OVERHEAD BRIDGE STRUCTURES. ANY DAMAGE WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR MAY NOT STORE ANY FLAMMABLE OR EXPLOSIVE MATERIALS IN THE AREAS BENEATH THE BRIDGES.
- ANY EXISTING PAVEMENT DAMAGED OR REMOVED WILL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST BEFORE ACCEPTANCE OF THE PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR KEEPING SIDEWALKS AND ROADS ADJACENT TO THE PROJECT SITE FREE FROM MUD AND DEBRIS FROM CONSTRUCTION ACTIVITIES.
- BARRICADING AND TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE " TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" , PART VI IN PARTICULAR. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING BARRICADES IN PLACE DURING CONSTRUCTION.
- WHERE EXISTING ASPHALT AND CONCRETE ARE TO BE CUT, THESE CUTS SHALL BE VERTICAL AND MADE WITH A SAW. CONTRACTOR WILL BE RESPONSIBLE FOR REPAVING AREAS DISTURBED BY CONSTRUCTION.
- TOPSOIL AND SEEDING SHALL BE PLACED ON ALL DISTURBED AREAS. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 7, AND SHALL BE FREE OF STONES LARGER THAN ONE INCH, DEBRIS, AND EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.

EROSION CONTROL NOTES:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH TCEQ/EPA REQUIREMENTS FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING AND GAINING ANY REQUIRED AUTHORIZATION OR PERMIT FOR THE SWPPP FOR THIS PROJECT. A COPY OF AN APPROVED SWPPP SHALL BE GIVEN TO THE OWNER PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL NOT ALLOW SEDIMENT TO LEAVE THE WORK AREA OR ENTER ANY ADJOINING CHANNELS OR DITCHES. ADDITIONAL MEASURES (AT NO ADDITIONAL COST TO THE OWNER) MAY BE REQUIRED BEYOND THOSE NOTED IN THE SWPPP IF SEDIMENTATION OR RUN-OFF IS OBSERVED LEAVING THE WORK AREA.
- THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING GRASS OR OTHER GROUND COVER TO ALL DISTURBED AREAS OF THE SITE. THIS INCLUDES ACCESS ROADS, LAY DOWN AND MATERIAL STORAGE AREAS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL DISTURBED AREAS FOR A PERIOD OF 90 DAYS FROM FINAL PROJECT ACCEPTANCE. THE CONTRACTOR SHALL GUARANTEE THE TURF ESTABLISHMENT OF DISTURBED AREAS FOR A PERIOD OF 6 MONTHS. GROWTH AND COVERAGE SHALL BE DEFINED AS 100% COVERAGE OF ALL DISTURBED AREAS WITH A UNIFORM COVERAGE OF GRASS A MINIMUM OF 1" IN HEIGHT WITH NO BARE SPOTS EXCEEDING 2 SQUARE FEET. ADDITIONAL HYDROSEEDING APPLICATIONS MAY BE REQUIRED TO MEET COVERAGE REQUIREMENTS (NO ADDITIONAL COST TO THE OWNER).

- THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT OR UNTIL THE POINT THAT TURF IS ESTABLISHED TO PLAN GRADES. IF EROSION OR RILLING IS OBSERVED, CORRECTIVE MEASURES SHALL BE MADE TO THOSE AREAS.
- SILT FENCING SHALL BE INSTALLED AS DETAILED. SEDIMENT SHALL BE CLEARED FROM THE FENCING OR BARRIER ONCE IT REACHES 1/3 THE HEIGHT OF THE FENCING.
- CONTRACTOR SHALL ESTABLISH AND UTILIZE A RIP RAP WASH DOWN AREA ADJACENT TO ANY PUBLIC R.O.W., STREET, ALLEY, PARKING LOT OR OTHER VEHICULAR THROUGH-WAY. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ANY ROAD SURFACE ADJACENT TO THE PROJECT SITE FROM MUD AND DEBRIS CAUSED BY VEHICLES ENTERING THE WORK AREA. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR HIS SUB-CONTRACTORS AND TRADESMEN. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND HAULING AWAY THE RIP RAP WASH DOWN AREA PRIOR TO DEMOBILIZING.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM SPACE OF 5' BETWEEN ANY CONSTRUCTION OR SILT FENCING AND ADJACENT SIDEWALK, PARKING LOT OR BUILDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND MOWING THIS AREA THROUGHOUT CONSTRUCTION.
- THE CONTRACTOR SHALL USE THE STORMWATER POLLUTION PREVENTION PLAN AND SHALL OBTAIN ALL PERMITS AND FULFILL ALL PERMIT REQUIREMENTS, INCLUDING FEES FOR TCEQ GENERAL PERMIT NO. TXR150000 RELATING TO DISCHARGES FROM CONSTRUCTION ACTIVITIES. TOTAL PROJECT AREA IS 1.0 ACRES. CONTRACTOR MUST SIGN AND POST A CONSTRUCTION SITE NOTICE (CSN) WITH SW3P INFORMATION ON OR NEAR THE SITE, ACCESSIBLE TO THE PUBLIC AND TCEQ, EPA OR OTHER INSPECTORS.
- THE STORM WATER POLLUTION PREVENTION PLAN SHALL CONSIST OF USING THE BID ITEMS SEEDING, AND SILT FENCE AS SHOWN ON THE PLANS. ONCE INSTALLED, SILT FENCE SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE ACHIEVED AT LEAST 75% VEGETATIVE COVER. CONTRACTOR SHALL PROPERLY MAINTAIN STRUCTURAL B.M.P.S THROUGHOUT THE PROJECT DURATION.

LEGEND/ABBREVIATIONS

EXISTING	PROPOSED
 BENCHMARK	 PROP. RIP-RAP
 CONTROL POINT	 PROP. ASPHALT PAVEMENT
 GPS CONTROL POINT	 PROP. CONC. BOAT RAMP
 WASTEWATER MANHOLE	 PROP. CONC. SIDEWALK
 STORM SEWER MANHOLE	 PROP. COURTESY DOCK
 SINGLE POST SIGN	 EXCAVATE, FILL, GRADE & SEED
 DOUBLE SUPPORT SIGN	 PROPOSED CONTOUR
 TRASH CAN	 PROPOSED GRADE
 TREE	 CONTROL POINTS
 BOLLARDS WITH CABLE	
 EXISTING CONTOUR	
 EXISTING ELEVATION	

NOTE:

WHERE THE WORD "PROPOSED" OR "PROP." IS UTILIZED IN THIS SET OF DOCUMENTS, IT SHALL MEAN "NEW CONSTRUCTION TO BE PERFORMED AS PART OF THIS CONTRACT."

QUANTITIES

A-1	Mobilization & Demobilization	1	LS
A-2	Construction Survey	1	LS
A-3	Quality Control	1	LS
A-4	Care of Water	1	LS
A-5	Temporary Erosion and Sediment Control	1	LS
A-6	Structure Removal, Existing Concrete Boat Ramp	1	LS
A-7	Structure Removal, Existing Rock Gabion	1	LS
A-8	Structure Removal, Existing Concrete Pavement	1	LS
A-9	Structure Removal, Existing Bollards with Cable	1	LS
A-10	Asphalt Removal Full Depth	86	SY
A-11	Relocate Existing Trash Can and Signs	1	LS
A-12	Protect Existing Concrete Pillars	1	LS
A-13	Excavation, Common	730	CY
A-14	Compacted Fill	130	CY
A-15	Flowable Fill	100	CY
A-16	Limestone Flex Base	5	CY
A-17	Geotextile	353	SY
A-18	Reinforced Concrete, Boat Ramp	58	CY
A-19	Reinforced Concrete, Courtesy Dock	45	CY
A-20	Reinforced Concrete, Sidewalk	18	CY
A-21	Asphalt	15	SY
A-22	Courtesy Dock Hardware	1	LS
A-23	Rock Riprap	150	TN
A-24	Gravel Bedding	340	SY
A-25	Topsoil (6")	80	SY
A-26	Vegetation, Seeding	80	SY
A-27	Silt Fence	250	LF

TESTING SCHEDULE

DESCRIPTION	MINIMUM RATE	EST. QUANTITY
SOILS: STANDARD PROCTOR - TRENCH BACKFILL STANDARD PROCTOR - SUBGRADE DENSITIES - TRENCH BACKFILL DENSITIES - SUBGRADE (STREET) DENSITIES - SUBGRADE (DRIVEWAYS) DENSITIES - SUBGRADE (SIDEWALKS)	PER MATERIAL SOURCE PER PARKING AREA PER 200 LF TRENCH/LIFT PER 200 LF LANE/LIFT PER 2 DRIVEWAYS PER 5000 SF	1 1 - - - 1
FLEXIBLE BASE: SIEVE ANALYSIS ATTERBURG LIMITS MODIFIED PROCTOR L.A. ABRASION CBR (STANDARD) WET BALL MILL TEST TRIAXIAL TEST	PER 3000 CY PER 3000 CY PER 3000 CY PER 3000 CY PER MATERIAL SOURCE PER MATERIAL SOURCE PER MATERIAL SOURCE	1 1 1 1 - - -
HOT-MIX ASPHALT CONCRETE (HMAC): EXTRACTION, SIEVE ANALYSIS LAB DENSITY & STABILITY THEORETICAL DENSITY (RICE METHOD) TEMPERATURE - DURING LAY-DOWN THICKNESS - IN PLACE (CORE) % AIR VOIDS - IN PLACE (CORE) % THEORETICAL DENSITY - IN PLACE (CORE)	PER 500 TONS OR DAY PER 500 TONS OR DAY PER 500 TONS OR DAY CONTINUOUS AS NEEDED PER 1000 LF STREET PER 1000 LF STREET PER 1000 LF STREET	1 1 1 1 - - -
CONCRETE: CURB & GUTTER SIDEWALKS AND BOAT RAMP DOCKS	PER 500 LF C&G PER 4000 SF DAILY FOR EACH PLACEMENT BETWEEN 5 AND 25 CY AND ONE ADDITIONAL FOR EACH ADDITIONAL 50 CY	- 2 1
RIGID PAVEMENT (ADD/ALT.): COMPRESSION STRENGTH (7 & 28 DAY) FLEXURAL (BEAM) STRENGTH (7 & 28 DAY) AIR CONTENT SLUMP	PER 2500 SY OR DAY PER 2500 SY OR DAY PER 2500 SY OR DAY PER 2500 SY OR DAY	- - - -

NOTE:

- THE ABOVE TESTING RATES ARE ONLY ANTICIPATED GUIDELINES, THE ENGINEER RESERVES THE RIGHT TO CONDUCT ADDITIONAL TESTING AT THE ENGINEER'S DISCRETION. RE-TEST FOR FAILURES ARE NOT INCLUDED.
- MOISTURE CONTENTS TO BE INCLUDED WITH DENSITY TEST.
- IN THE EVENT OF FAILURES, ADDITIONAL TESTS WILL BE REQUIRED.
- CONTRACTOR TO COORDINATE ALL TESTING OF CONSTRUCTION MATERIALS WITH TPWD'S SELECTED TESTING FIRM.

TEXAS
PARKS &
WILDLIFE



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Freese and Nichols, Inc.
Texas Registered Engineering Firm #2144

LAKE DUNLAP
I-35 BOAT RAMP REPLACEMENT
PROJECT NUMBER: 1111298

DATE: MARCH 2025
DESIGNED BY: HGO
DRAWN BY: DKS
REVIEWED BY: NAC
REVISED:
REVISED:
FNI PROJECT NO.:
TPW24561

SHEET TITLE
QUANTITIES,
LEGEND & NOTES

SHEET NUMBER
G-2
2 OF 12

ISSUED FOR BID

1. ALL BEARINGS ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, GRID NORTH, SOUTH CENTRAL ZONE, (4204), NAD83.
2. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A TITLE COMMITMENT AND WOULD BE SUBJECT TO ANY AND ALL EASEMENTS, CONDITIONS OR RESTRICTIONS THAT A CURRENT TITLE COMMITMENT MAY DISCLOSE.
3. REFER TO SHEET G-2 FOR EXISTING LEGEND

TREE LIST					
TAG	BOLE	TREE TYPE	DIPLINE	POINT NO.	BOLE DETAIL
4032	17"	ASH	17'	1041	
4033	11"	CHINESE TALLOW	11'	1042	
4034	10"	SYCAMORE	10'	1043	
4035	17.5"	ASH	17.5'	1050	8.5X8X5X5
4036	12"	SYCAMORE	12'	1563	
4037	14"	CYPRESS	14'	1564	
4038	12"	SYCAMORE	12'	1565	
4039	9"	WILLOW	9'	1566	
4040	10.25"	ASH	10.25'	1567	6.5X5X2.5
4041	10"	BOX ELDER	10'	1568	10X4
4042	10"	SYCAMORE	10'	1569	



DATE: MARCH 2025
DESIGNED BY: SRT
DRAWN BY: DKS
REVIEWED BY: HGO
REVISED:

REVISED:

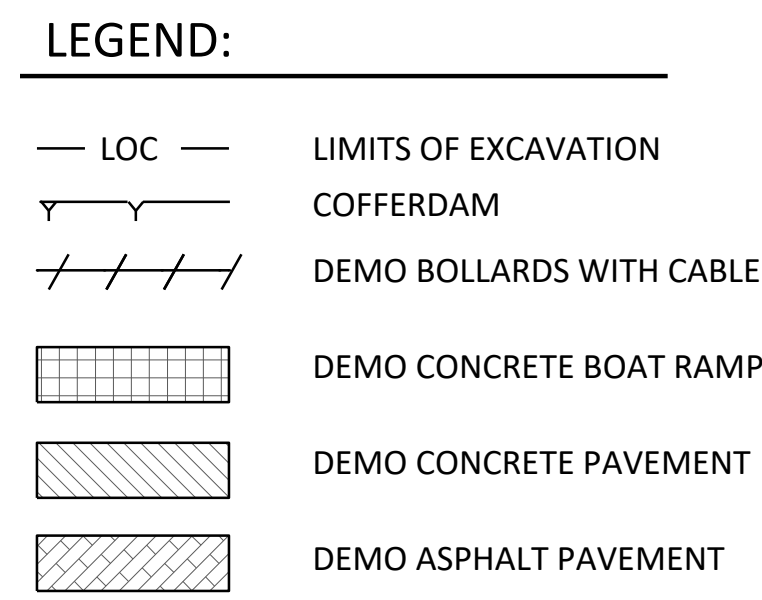
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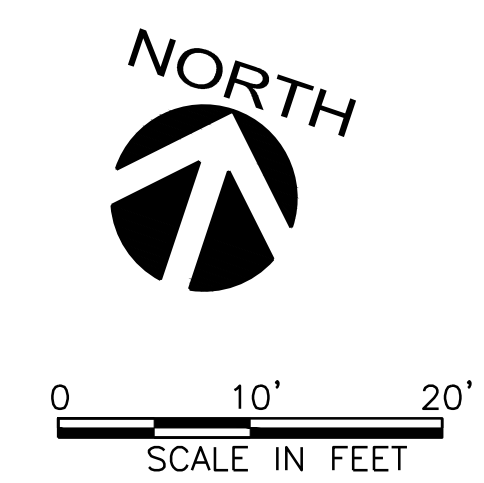
SHEET NUMBER

C-2

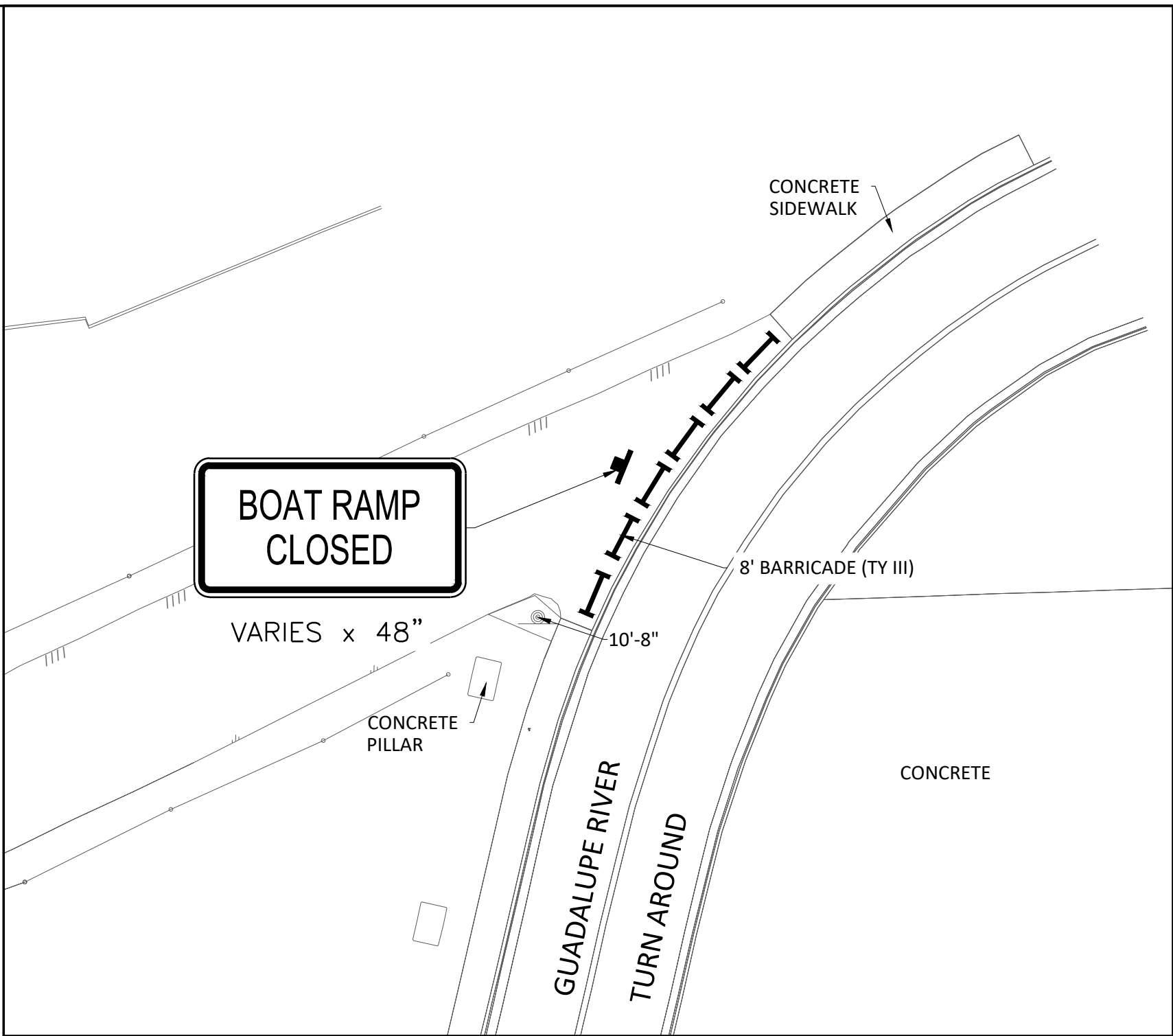
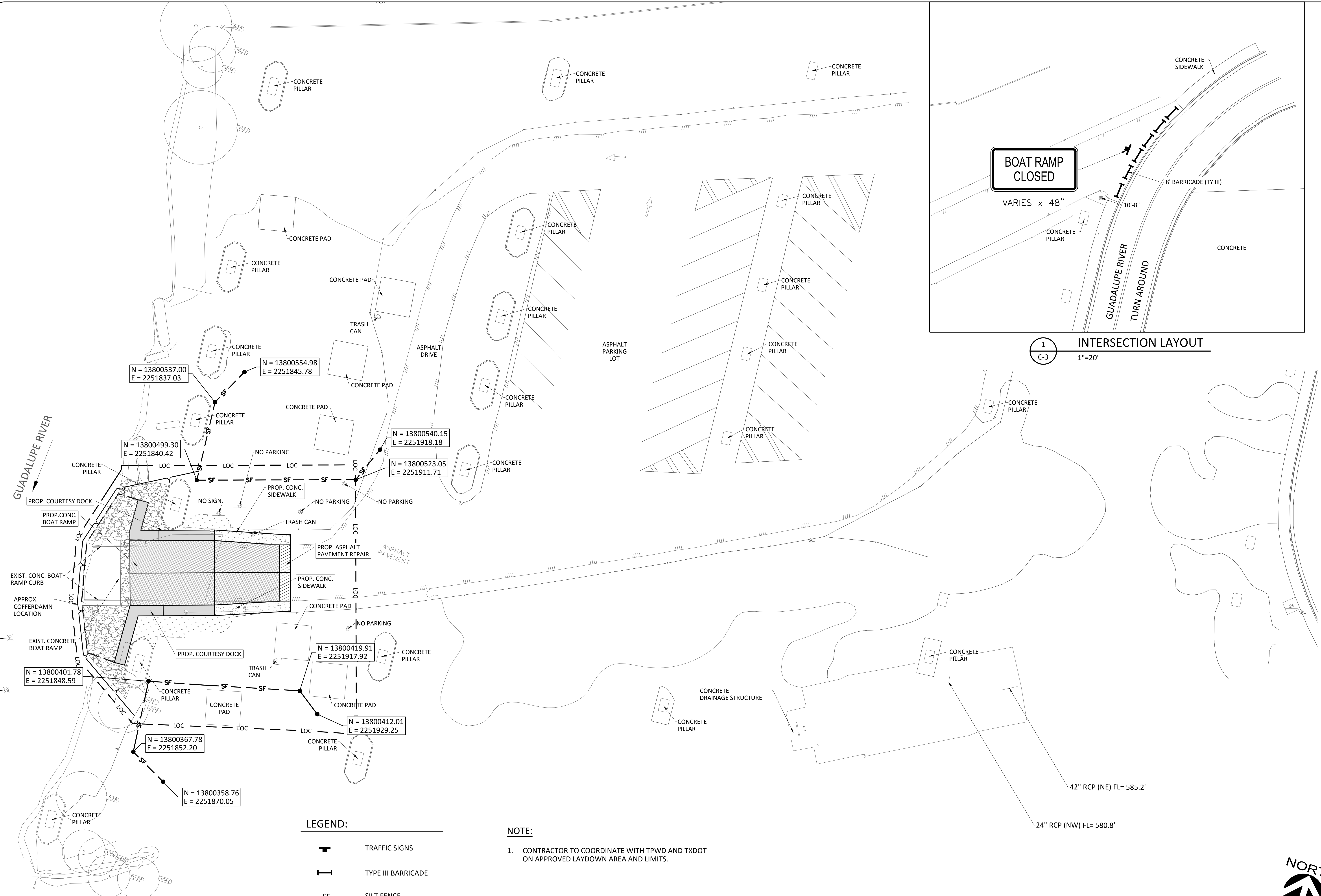
4 OF 12



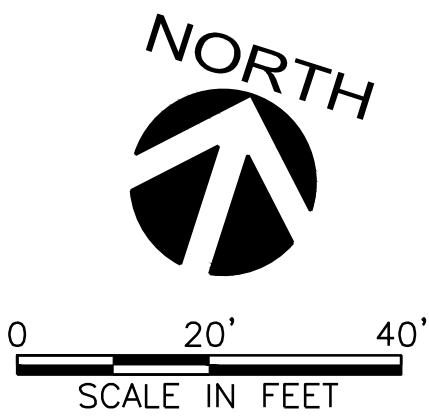
LIMITS OF CONSTRUCTION POINT TABLE		
PNT	NORTHING	EASTING
1	13800492.56	2251804.92
2	13800494.68	2251804.42
3	13800529.69	2251909.50
4	13800510.42	2251915.92
5	13800470.23	2251929.31
6	13800408.83	2251949.77
7	13800380.41	2251847.76
8	13800401.58	2251813.20
9	13800426.23	2251801.90
10	13800454.97	2251795.08



ISSUED FOR BID



1
C-3
1"=20'



ISSUED FOR BID

TEXAS
PARKS &
WILDLIFE

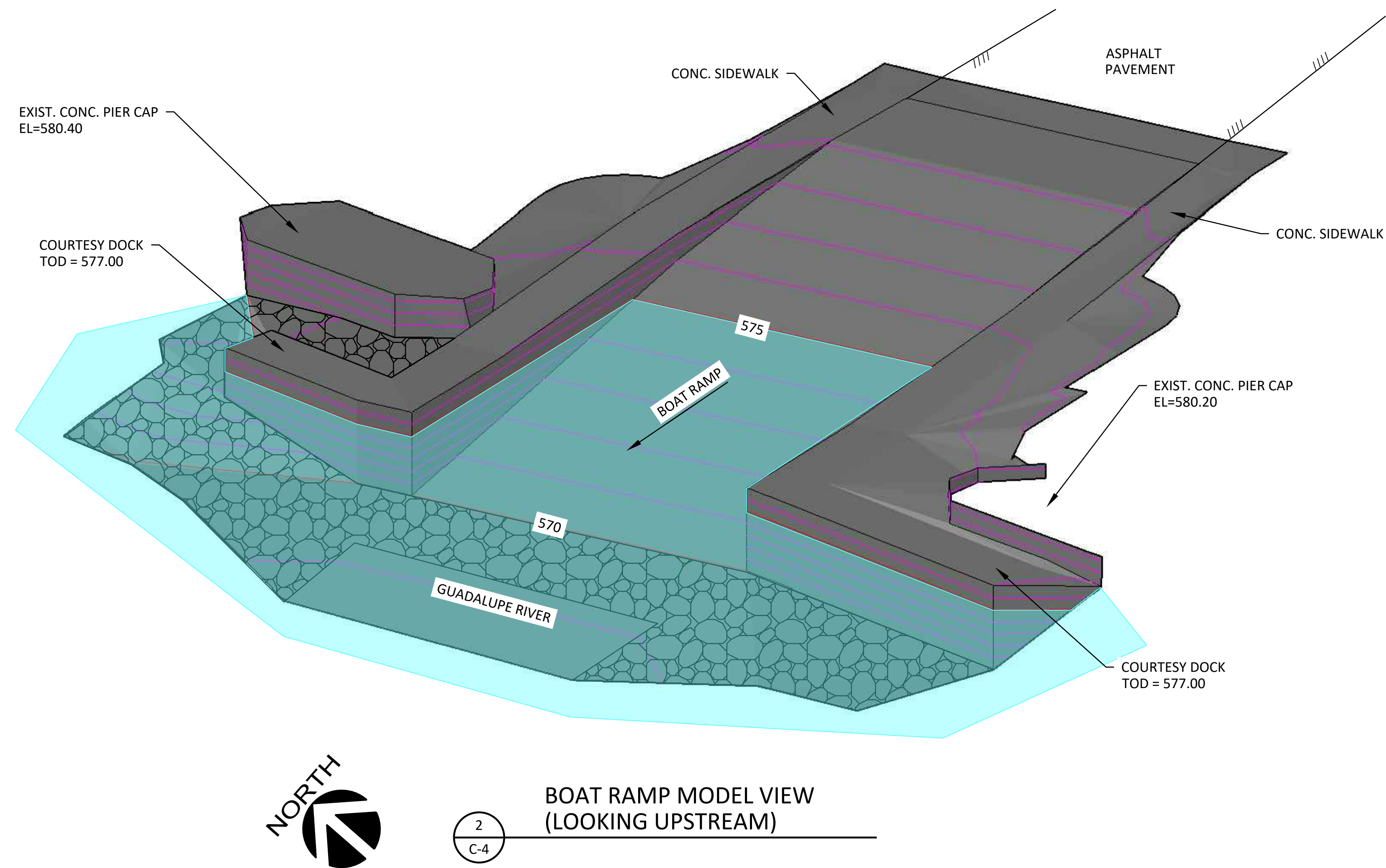
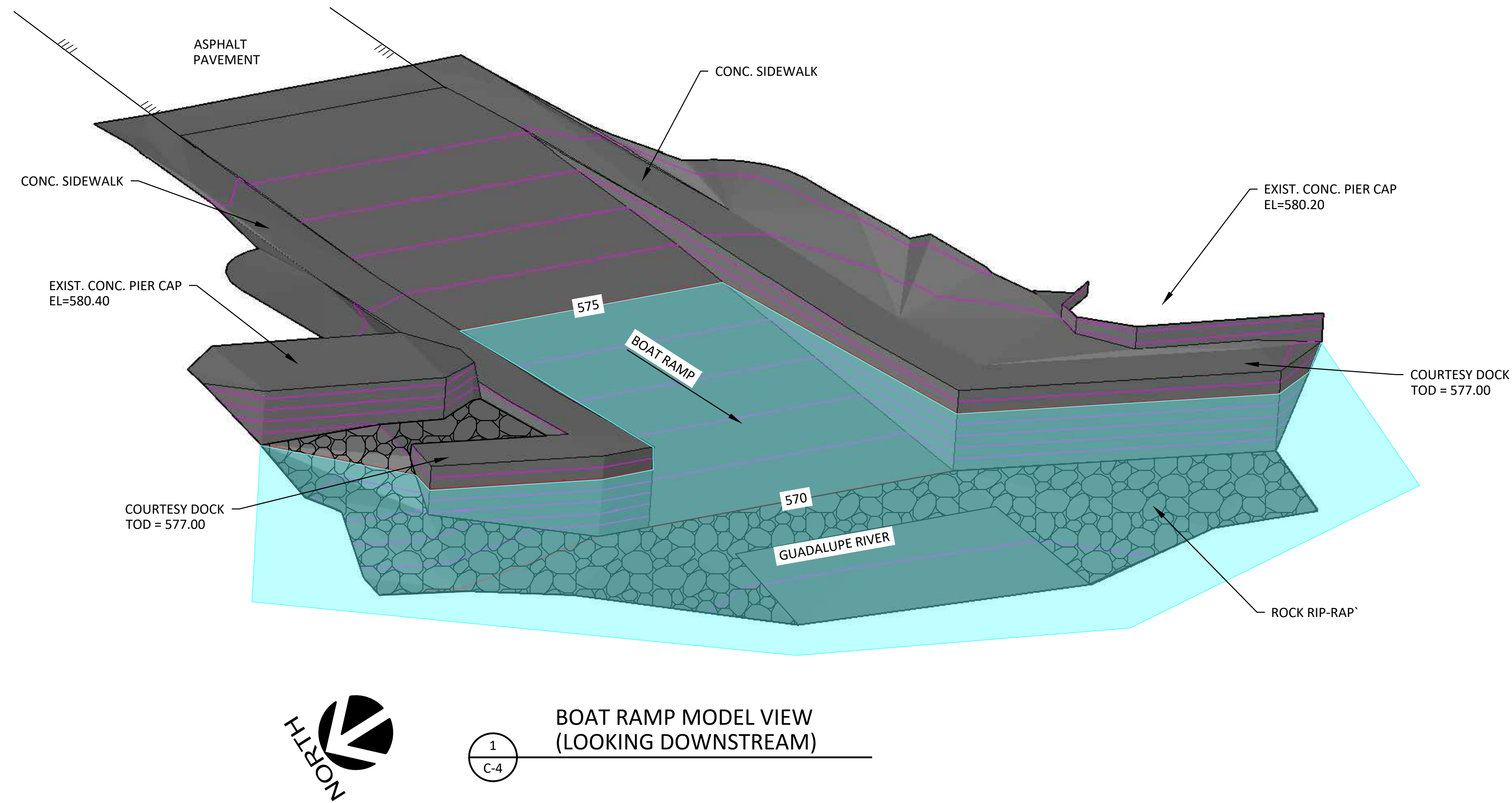
STATE OF TEXAS
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89499
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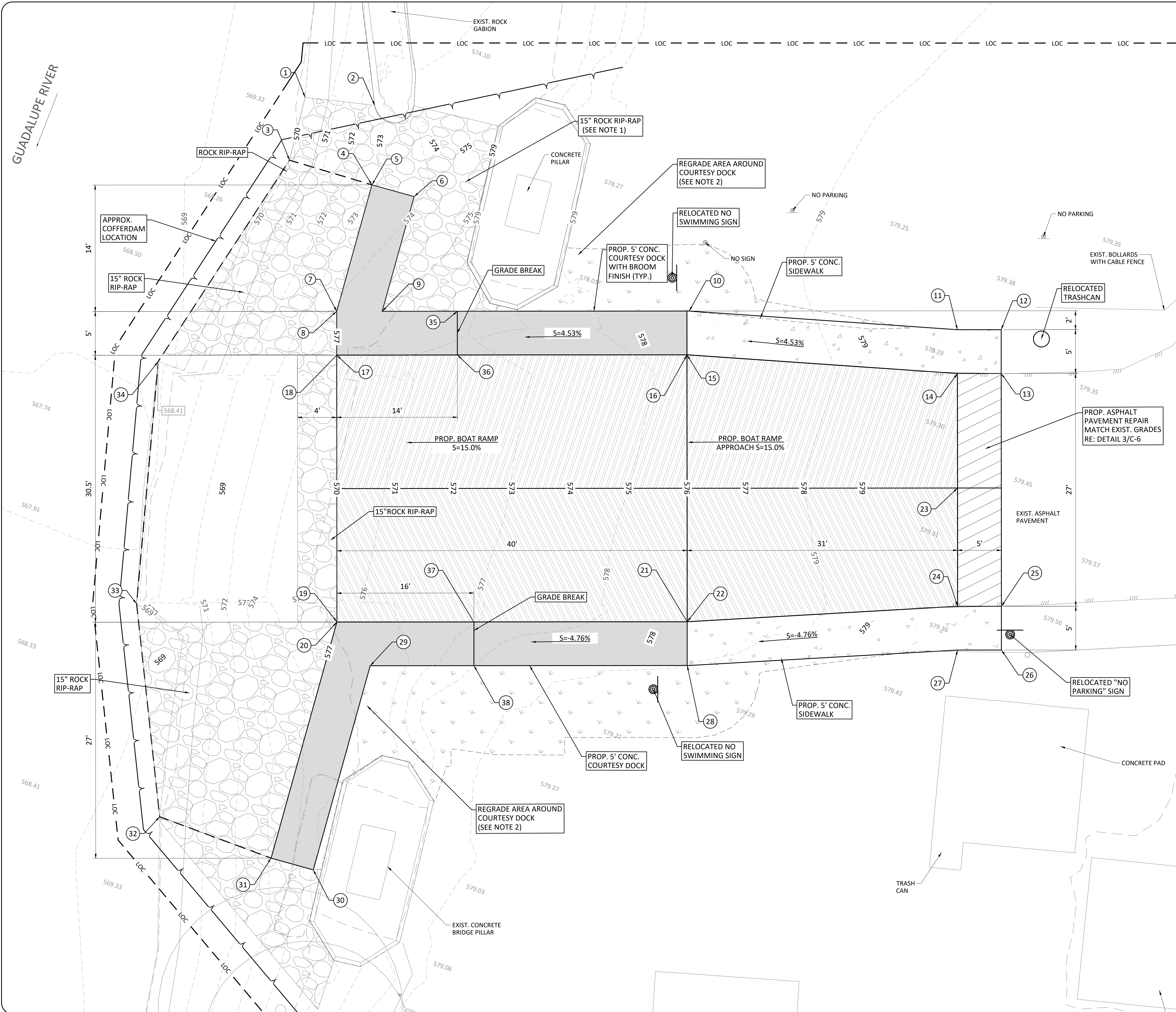
SHEET TITLE
OVERALL SITE PLAN
AND EROSION CONTROL

SHEET NUMBER
C-3
5 OF 12



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ABREVITAIONS:

TOR	TOP OF RAMP
RB	RIVER BOTTOM
TOW	TOP OF WALK
TOD	TOP OF DOCK

NOTES:

- EXCAVATE EXISTING SOILS TO 6" BELOW THE PROPOSED TOP OF SIDEWALK. REMOVE AND DISPOSE OF ANY CONCRETE RUBBLE AND CONSTRUCTION DEBRIS. BACKFILL WITH CLEAN TOPSOIL AND ROLL WITH SUITABLE CONSTRUCTION EQUIPMENT AS REQUIRED FOR INITIAL STABILITY. TOPSOIL SHALL MATCH THE TOP OF PROPOSED SIDEWALK CROWNING IN THE CENTER TO MAINTAIN POSITIVE DRAINAGE 2% MIN, 4% MAX. MATCH EXISTING GRADES AND INSTALL BERMUDA SEEDING ON ALL DISTURBED AREAS.
- BACKFILL FOR ENTIRE VOLUME OF EXCAVATION ADJACENT TO THE BRIDGE COLUMNS SHALL BE EXCAVATABLE FLOWABLE FILL WITH A MINIMUM THICKNESS OF 12" AND SHALL BE PLACED TO WITHIN 6" OF THE FINAL FINISHED GRADE. (FLOWABLE FILL TO CONFORM TO TxDOT REQUIREMENTS SHOWN ON TABLE 2 OF ITEM 401). BACKFILL THE REMAINING 6" WITH CLEAN NATIVE SOILS TO MATCH EXISTING.
- REFER TO 1/S-4 FOR CONTROL JOINT (CJ) DETAILS AND REFER TO 4/S-4 FOR CONSTRUCTION JOINT (CXJ) DETAILS.

POINT TABLE				
PNT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	13800488.87	2251806.61	570.10	RB
2	13800490.50	2251814.43	573.00	RB
3	13800481.48	2251807.19	569.89	RB
4	13800481.78	2251817.00	570.00	RB
5	13800481.78	2251817.01	577.00	TOD
6	13800482.04	2251822.01	577.10	TOD
7	13800466.80	2251817.76	577.00	TOD
8	13800466.80	2251817.75	570.00	RB
9	13800468.44	2251822.69	577.10	TOD
10	13800479.56	2251855.95	578.30	TOD
11	13800487.23	2251885.68	579.44	TOW
12	13800488.81	2251890.42	579.44	TOW
13	13800484.07	2251892.01	579.34	TOW
14	13800482.48	2251887.26	579.34	TOR
15	13800474.74	2251857.28	578.20	TOD
16	13800474.73	2251857.29	576.00	TOR
17	13800462.06	2251819.35	577.00	TOD
18	13800462.05	2251819.35	570.00	TOR
19	13800433.14	2251829.01	570.00	TOR
20	13800433.13	2251829.02	577.00	TOD
21	13800445.82	2251866.95	576.00	TOR
22	13800445.81	2251866.95	578.16	TOD
23	13800470.07	2251891.42	579.34	TOR
24	13800457.25	2251895.70	579.34	TOR
25	13800458.84	2251900.44	579.45	TOW
26	13800454.10	2251902.03	579.55	TOW
27	13800452.51	2251897.28	579.55	TOW
28	13800441.07	2251868.54	578.26	TOD
29	13800429.59	2251834.21	577.10	TOD
30	13800405.41	2251835.41	577.10	TOD
31	13800405.16	2251830.41	570.00	RB
32	13800405.62	2251816.85	569.96	RB
33	13800427.86	2251806.66	568.37	RB
34	13800454.91	2251800.24	568.41	RB
35	13800471.17	2251830.83	577.10	TOD
36	13800466.43	2251832.41	577.00	TOD
37	13800438.09	2251843.85	577.10	TOD
38	13800433.35	2251845.44	577.10	TOD



0 5' 10'
SCALE IN FEET

ISSUED FOR BID

TEXAS
PARKS &
WILDLIFE



FRESE & NICHOLS
800 N. Shoreline Blvd., Suite 1600N
Corpus Christi, Texas 78401-3700
Phone - (361) 561-6500
Web - www.frese.com
Freese and Nichols, Inc.
Texas Registered Engineering firm #2144

LAKE DUNLAP
I-35 BOAT RAMP REPLACEMENT
PROJECT NUMBER: 111298

DATE: MARCH 2025
DESIGNED BY: SRT
DRAWN BY: DKS
REVIEWED BY: HGO
REVISED:

REVISED:

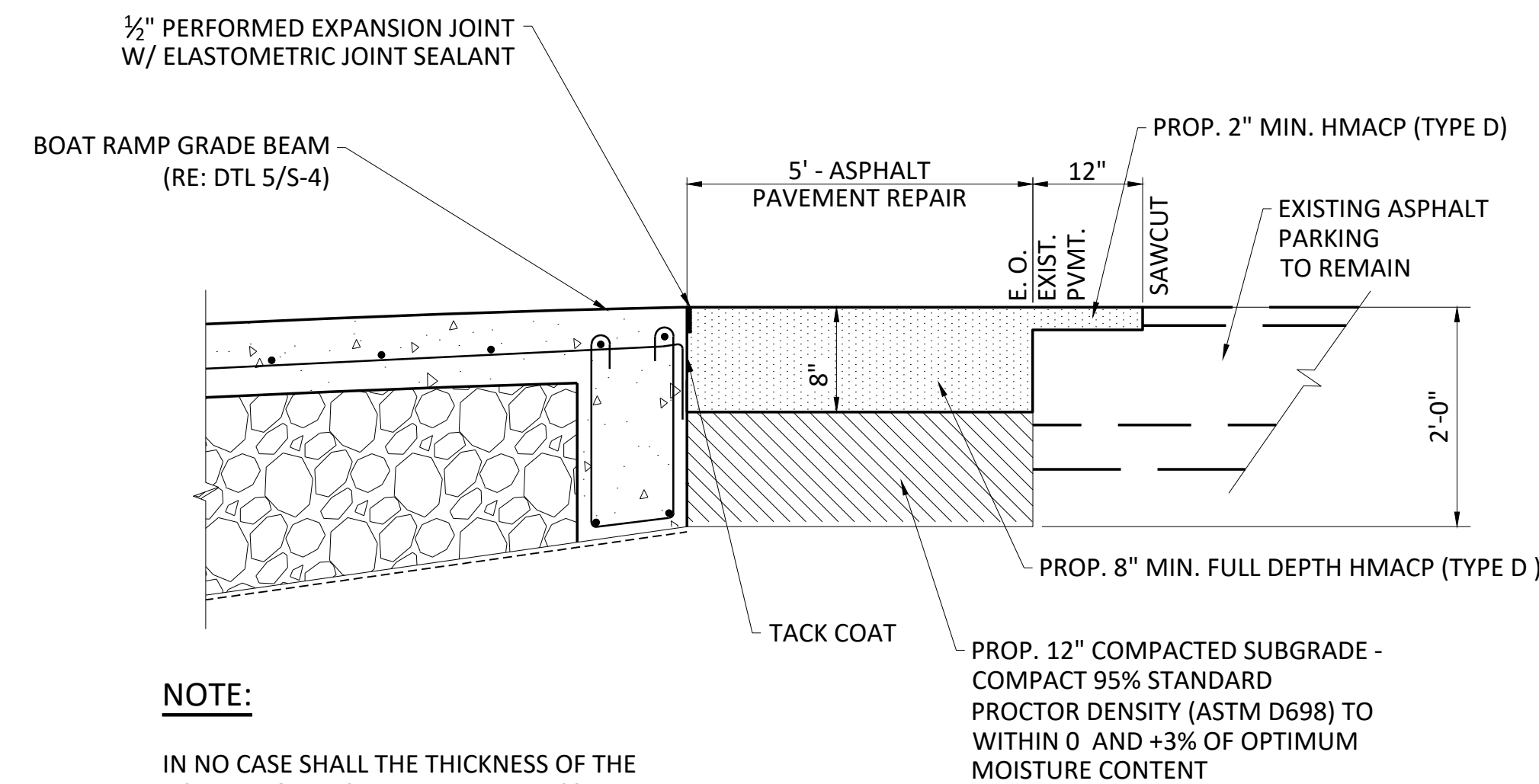
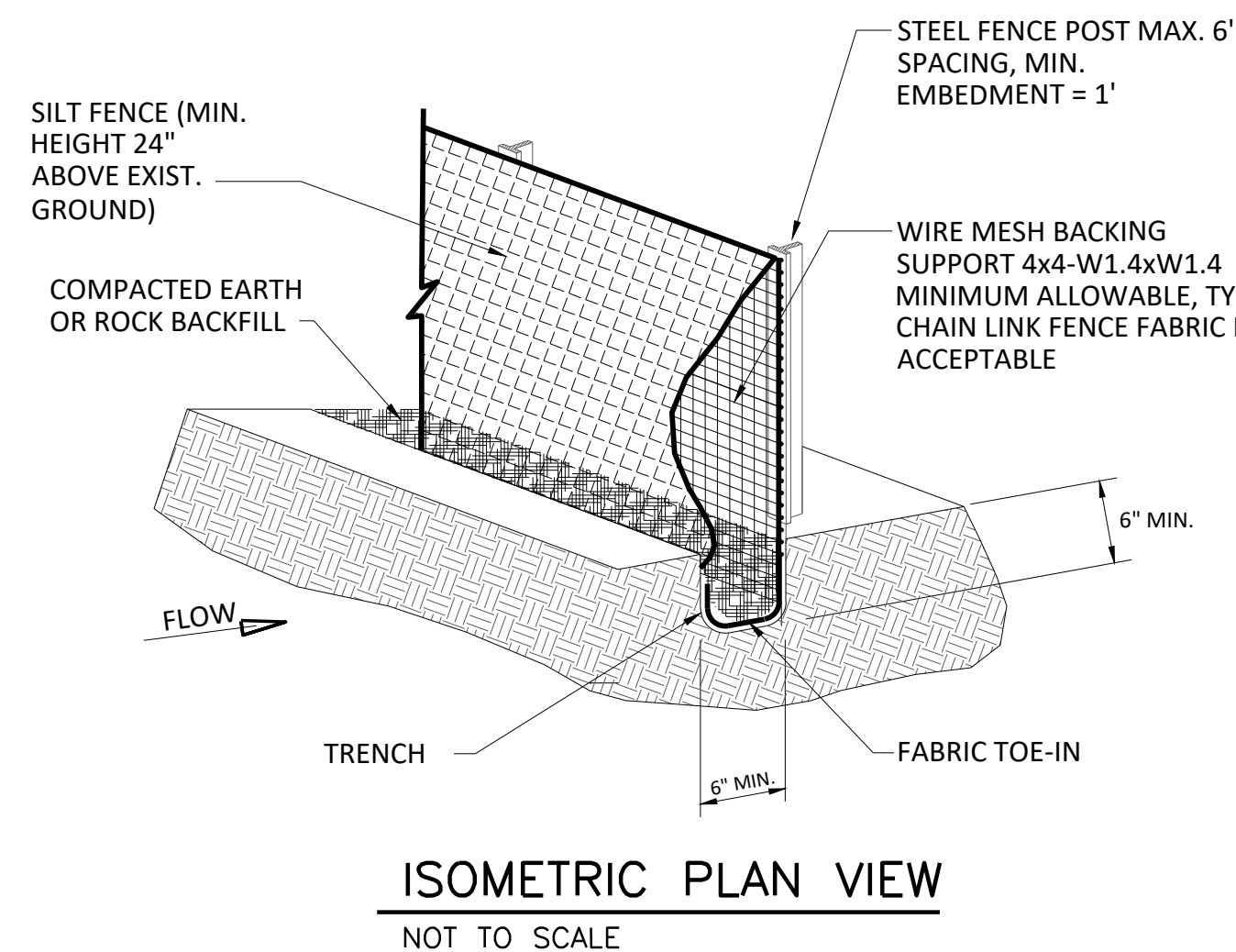
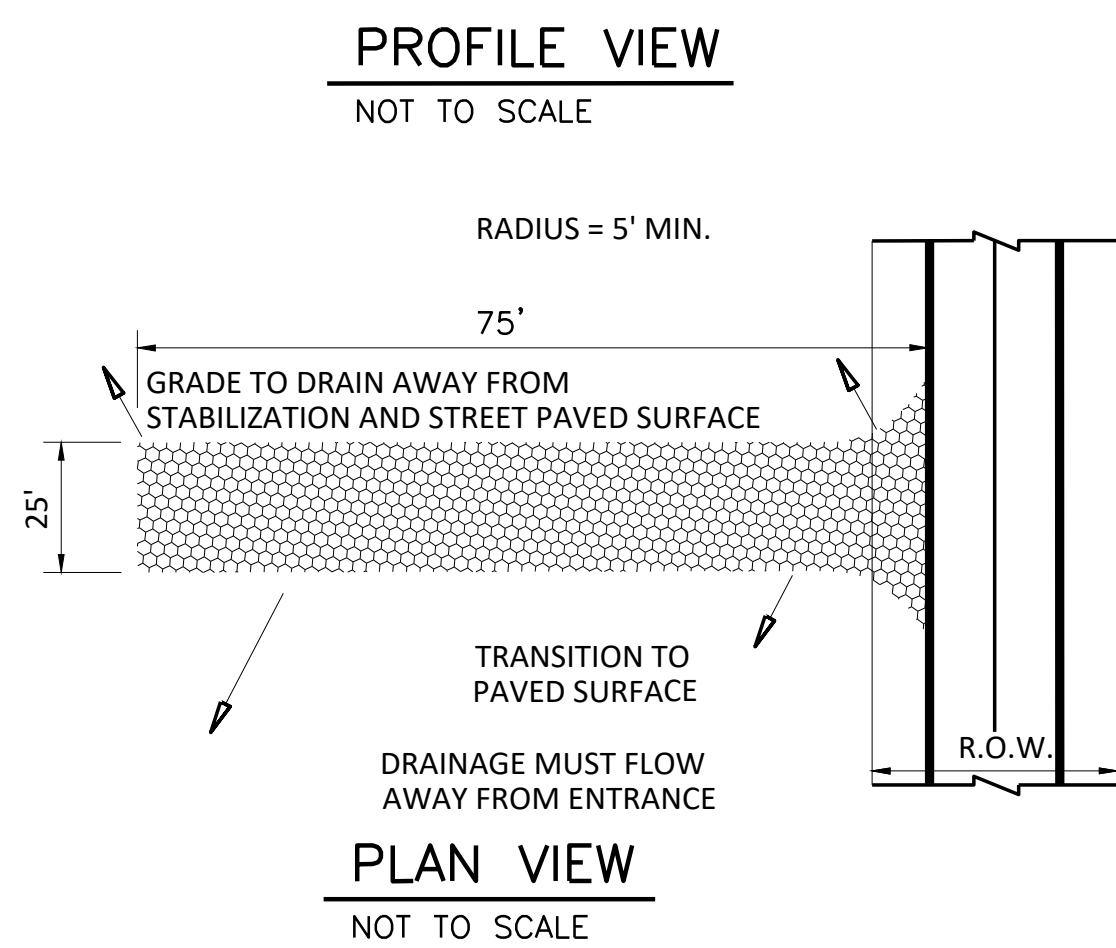
FNI PROJECT NO.:
TPW24561

SHEET TITLE
STAKING AND
GRADING PLAN

SHEET NUMBER

C-5

7 OF 12



NOTE:

IN NO CASE SHALL THE THICKNESS OF THE ASPHALT OR BASE MATERIAL BE LESS THAN THE THICKNESS OF EXISTING ADJACENT MATERIAL.

1
C-6

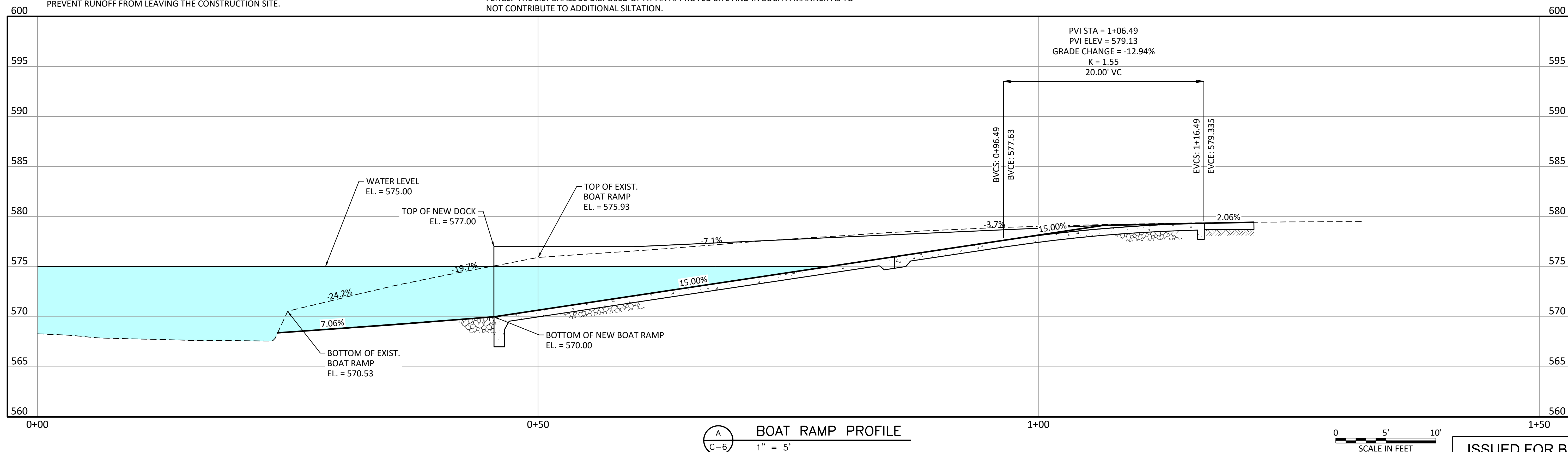
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



SILT FENCE
NOT TO SCALE

3 ASPHALT PAVEMENT REPAIR
C-5 3/4" = 1'-0"



8 OF 12

ISSUED FOR BID

ACAD Rel: 24.2s (LMS Tech)
Filename: N:\ST\Drawings\ST-DUN-GN-NOTE.dwg
Last Saved: 3/28/2025 2:11 PM Saved By: bj

GENERAL

1.

CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2021 INTERNATIONAL BUILDING CODE, INCLUDING LOCAL SUPPLEMENTS, EXCEPT WHERE APPLICABLE CODES OR THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.
2.

DESIGN IS IN ACCORDANCE WITH 2018 INTERNATIONAL BUILDING CODE, LOCAL AMENDMENTS, AND APPLICABLE CODE REFERENCED STANDARDS.
3.

PRIOR TO FABRICATION OR CONSTRUCTION:

A.

VERIFY DIMENSIONS AND LOCATIONS OF ALL OPENINGS, DEPRESSIONS, OFFSETS, SLEEVES, CURBS, PADS, INSERTS, EQUIPMENT REQUIREMENTS, ETCETERA.

B.

REVIEW OTHER DISCIPLINE DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS, DEPRESSIONS, OFFSETS, SLEEVES, CURBS, PADS, INSERTS, EQUIPMENT REQUIREMENTS, ETCETERA, WHICH ARE NOT SHOWN ON STRUCTURAL DRAWINGS.

C.

FIELD VERIFY ALL EXISTING CONDITIONS, INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES.

D.

NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN DISCIPLINES, CONSTRUCTABILITY ISSUES, OR EXISTING CONDITIONS.
4.

REMOVE ALL ABANDONED FOUNDATIONS, UTILITIES, PIPELINES, ETCETERA THAT INTERFERE WITH NEW CONSTRUCTION.
5.

PROVIDE EXCAVATION SHORING TO PROTECT AND SUPPORT FOUNDATION SOILS UNDER EXISTING STRUCTURES.
6.

THE STRUCTURE IS DESIGNED FOR STABILITY IN THE FINAL CONDITION ONLY. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY DURING CONSTRUCTION.
7.

PLANS, SECTIONS, AND DETAILS ARE NOT TO BE SCALED FOR DETERMINATION OF QUANTITIES, LENGTHS, OR FIT OF MATERIALS.
8.

THE GENERAL NOTES AND TYPICAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.

FOUNDATION

1.

FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT "LAKE DUNLAP IH-35 EXIST. 188 BOAT RAMP REPLACEMENT GEOTECHNICAL INVESTIGATION REPORT; GEOTECHNICAL DATA SUMMARY", DATED NOVEMBER 2024, PREPARED BY FREENE AND NICHOLS, INC.
2.

EXCAVATION DESIGN AND SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. ANY SLOPES SHOWN ARE A MAXIMUM AND SHALL BE DECREASED AS REQUIRED FOR SAFETY OR TO MEET OSHA REQUIREMENTS.
3.

EXCAVATION AND SUBGRADE PREPARATION

A.

REMOVE THE SURFICIAL VEGETATION, WASTE AND LOOSE SOILS TO A MINIMUM DEPTH OF 12 INCHES.

B.

EXCAVATE THE SITE TO THE PROPOSED FINISHED SUBGRADE WHERE CUTTING TO SUBGRADE IS REQUIRED. EXTEND THE LATERAL LIMITS OF THE EXCAVATION 2'-0" BEYOND THE PERIMETER OF THE FOUNDATION.

C.

ALL BACKFILL MATERIAL SHALL CONSIST OF MATERIALS WHICH ARE CONSIST OF MATERIAL WHICH ARE CLASSIFIED AS SP, SM, SC, CL, OR DUAL CLASSIFICATIONS THEREOF, WHICH HAVE A LIQUID LIMIT LESS THAN OR EQUAL TO 35 AND A PLASTICITY INDEX OF A MINIMUM OF 4 AND A MAXIMUM OF 15, WHICH ARE FREE OF ORGANIC MATERIALS.

D.

BACKFILL SHALL BE PLACED IN MAXIMUM 8" LOOSE LIFTS FOR HEAVY EQUIPMENT AND 4" LOOSE LIFTS FOR HAND-DIRECTED EQUIPMENT. COMPACT TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 (STANDARD PROCTOR), AND AT A MOISTURE CONTENT WITH -2% TO 2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698. IN-PLACE FIELD DENSITY TESTS SHALL BE CONDUCTED AT A RATE OF ONE TEST PER 3,000 SQUARE FEET FOR EVERY LIFT.
4.

STRUCTURAL FILL SHALL BE COMPACTED SOIL BEHIND THE WALLS. COMPACT TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 (STANDARD PROCTOR)' AND A MOISTURE CONTENT WITH -2% TO 2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.
5.

ALL BELOW GRADE FOUNDATION ELEMENTS ARE DESIGNED WITH FORMED SIDES.IF THE CONTRACTOR ELECTS TO USE EARTH FORMED SIDES, THE EXPOSED SURFACE AND 12 INCHES BELOW GRADE SHALL BE FORMED TO THE DESIGN DIMENSION AND ONE INCH SHALL BE ADDED TO EACH SIDE TO PROVIDE ADEQUATE COVER OVER THE REINFORCING AT THE CONTRACTOR'S EXPENSE. ALL CONCRETE EXPOSED TO VIEW IN THE FINAL CONDITION, AND 12 INCHES BELOW GRADE SHALL BE FORMED.
6.

ALLOWABLE NET BEARING PRESSURES USED FOR FOUNDATION DESIGNS IS 500 PSF.
7.

PLACEMENT OF WORK PLATFORM SHALL BE WITHIN 24 HOURS OF FINAL EXCAVATION.
8.

WHERE CLAYEY OR SANDY SUBGRADE IS SATURATED:

A.

EXCAVATE AS REQUIRED TO WITHIN 3 FEET OF FINAL SUBGRADE SURFACE.

B.

NO EQUIPMENT TRAFFIC IS PERMITTED ON GROUND SURFACE WITHIN 3 FEET OF FINAL SUBGRADE. DO NOT CUT OR REMOLD FINAL SUBGRADE SURFACE.

C.

PERFORM FINAL EXCAVATION WITH SMOOTH EDGE BUCKET.

D.

HAND PLACE GEOTEXTILE TO CREATE A SMOOTH, WRINKLE FREE INSTALLATION. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

E.

PLACEMENT OF SPECIFIED, COMPACTED CRUSHED STONE ON GEOTEXTILE SHALL BE COMPLETED PRIOR TO OPERATING EQUIPMENT OVER GEOTEXTILE. A MINIMUM OF 12" FOR LIGHT EQUIPMENT, 18" FOR HEAVY EQUIPMENT.

CONCRETE

1.

ALL DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS NOTED OTHERWISE, SHALL BE IN ACCORDANCE WITH THE ACI DETAILING MANUAL (ACI SP-66), LATEST EDITION.
2.

CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI AND CONCRETE MIX DESIGN AS FOLLOWS:

A.

CEMENT: PORTLAND CEMENT, ASTM C 150, TYPE I/II, EQUIVALENT ALKALIES < 0.60%

B.

W/C RATIO: 0.4 MAXIMUM

C.

AGGREGATE: ASTM C 33, 1" MAXIMUM, CLASS 3M

D.

ENTRAINED AIR: ACI 318-14, EXPOSURE CLASS C2

E.

SLUMP: 3" (+/-1")

F.

MAXIMUM WATER-SOLUBLE CHLORIDE ION CONTENT IN CONCRETE BY WEIGHT OF CEMENT: 0.15
4.

ALL REINFORCING SHALL BE IN ACCORDANCE WITH ASTM A615, GRADE 60, DEFORMED.

5.

CONCRETE CLEAR COVER OVER REINFORCING SHALL BE AS LISTED BELOW, UNLESS NOTED OTHERWISE.

A.

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"

B.

ALL OTHER: 2"

C.

SEE DRAWINGS FOR EXCEPTIONS
6.

ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" INSIDE FORMS OR TOOLED TO 3/4" RADIUS ON SLABS UNLESS NOTED OTHERWISE.
7.

ALL CONSTRUCTION JOINTS (CXJ) SHALL BE THOROUGHLY CLEANED AND PURPOSELY ROUGHENED TO 1/4" PRIOR TO PLACING ADJACENT CONCRETE.
8.

ADDITIONAL CONSTRUCTION JOINTS SHALL HAVE PRIOR APPROVAL OF THE ENGINEER.
9.

PENETRATIONS OTHER THAN SHOWN SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
10.

IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.
11.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING, TEMPORARY BRACING AND SHORING.
12.

UNLESS NOTED OTHERWISE, HOOKS SHOWN ON DRAWINGS SHALL BE ASSUMED TO BE STANDARD HOOKS PER ACI 318.
13.

UNLESS NOTED OTHERWISE, LAP SPLICES IN BEAMS AND WALLS SHALL BE STAGGERED.
14.

ALL REINFORCING SHALL BE CONTINUOUS. CONTINUOUS BARS SHALL LAP 48 BAR DIAMETERS OF SMALLER BAR, LAPPED, UNLESS NOTED OTHERWISE. ALL REBAR EMBEDMENT LENGTHS SHALL BE 36 BAR DIAMETERS, UNLESS NOTED OTHERWISE.

POST-INSTALLED ANCHORS (EXPANSION OR ADHESIVE)

1.

INSTALL IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII), BUT NOT LESS THAN THAT INDICATED BELOW.
2.

INSTRUCTIONS BELOW ARE NOT INTENDED TO CONFLICT WITH APPLICABLE SAFETY OR OSHA REGULATIONS OR TO RELIEVE CONTRACTOR OF COMPLIANCE WITH ALL APPLICABLE SAFETY AND OSHA REGULATIONS. IN CASE OF CONFLICT WITH SAFETY OR OSHA REGULATIONS, CONTACT THE ENGINEER FOR GUIDANCE BEFORE PROCEEDING WITH FABRICATION OR CONSTRUCTION.
3.

ADHESIVE ANCHORS SHALL ONLY BE INSTALLED BY CONSTRUCTION PERSONNEL CERTIFIED UNDER ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM OR APPROVED EQUAL. SUBMIT CERTIFICATIONS AS RECORD DATA PRIOR TO ANCHOR INSTALLATION.
4.

ANCHOR DIAMETER AND EMBEDMENT SHALL BE AS INDICATED.
5.

HOLES SHALL BE DRILLED USING ROTARY HAMMER DRILLS WITH ANSI MATCHED TOLERANCE CARBIDE-TIPPED DRILL BITS. DRILL BIT DIAMETER SHALL MATCH DIAMETER RECOMMENDED BY MANUFACTURER. DRILL HOLES USING HILTI SAFESET TECHNOLOGY OR APPROVED EQUAL.
6.

USE CARE AND CAUTION WHEN INSTALLING TO AVOID CUTTING OR DAMAGING EXISTING REINFORCING STEEL. FIELD VERIFY EXISTING REINFORCING LOCATIONS PRIOR TO FABRICATION OR CONSTRUCTION, AND THEN COORDINATE REBAR LOCATIONS WITH SHOP DRAWINGS.
7.

ADHESIVE ANCHORS SHALL BE DEFORMED REINFORCING BARS (ASTM A615, GR 60) OR STAINLESS STEEL 316, UNLESS NOTED OTHERWISE, AND AS NOTED BELOW:

A.

ADHESIVE SHALL BE HILTI HIT-RE 500 V3 OR AN APPROVED EQUAL. SUBMIT PUBLISHED COMPARISONS BETWEEN EACH SPECIFIED AND EACH ALTERNATE ANCHOR.

B.

PRIOR TO INSTALLATION: ALL DEFORMED BARS AND THREADED ROD SHALL BE CLEAN, FREE OF OIL, GREASE, OR OTHER RESIDUE, IN ACCORDANCE WITH MPII.

C.

VERIFY HOLE IS CLEAR OF DUST AND DEBRIS.

D.

INSTALL ADHESIVE STARTING AT BACK OF HOLE. AS REQUIRED BY MPII, USE MANUFACTURER SUPPLIED PISTON PLUG INJECTION SYSTEM FOR ALL HORIZONTAL AND VERTICALLY INCLINED HOLES.

E.

INSTALL ANCHOR BY SIMULTANEOUSLY TWISTING AND INSERTING INTO HOLE.

F.

ALLOW ANCHOR TO SET REQUIRED TIME. DO NOT DISTURB.

G.

TIGHTEN NUT. DO NOT OVER-TORQUE.

H.

MINIMUM CONCRETE AGE AT TIME OF INSTALLATION: 28 DAYS

I.

CONCRETE TEMPERATURE RANGE AT TIME OF INSTALLATION SHALL BE: 41DEG F TO 104DEG F.

J.

CONCRETE MOISTURE CONDITION AT TIME OF INSTALLATION: DRY.



LAKE DUNLAP
I-35 BOAT RAMP REPLACEMENT
PROJECT NUMBER: 1111298

DATE: MARCH 2025
DESIGNED BY: SRT
DRAWN BY: DKS
REVIEWED BY: HGO
REVISED:

REVISED:

REVISED:

FNI PROJECT NO.:
TPW24561

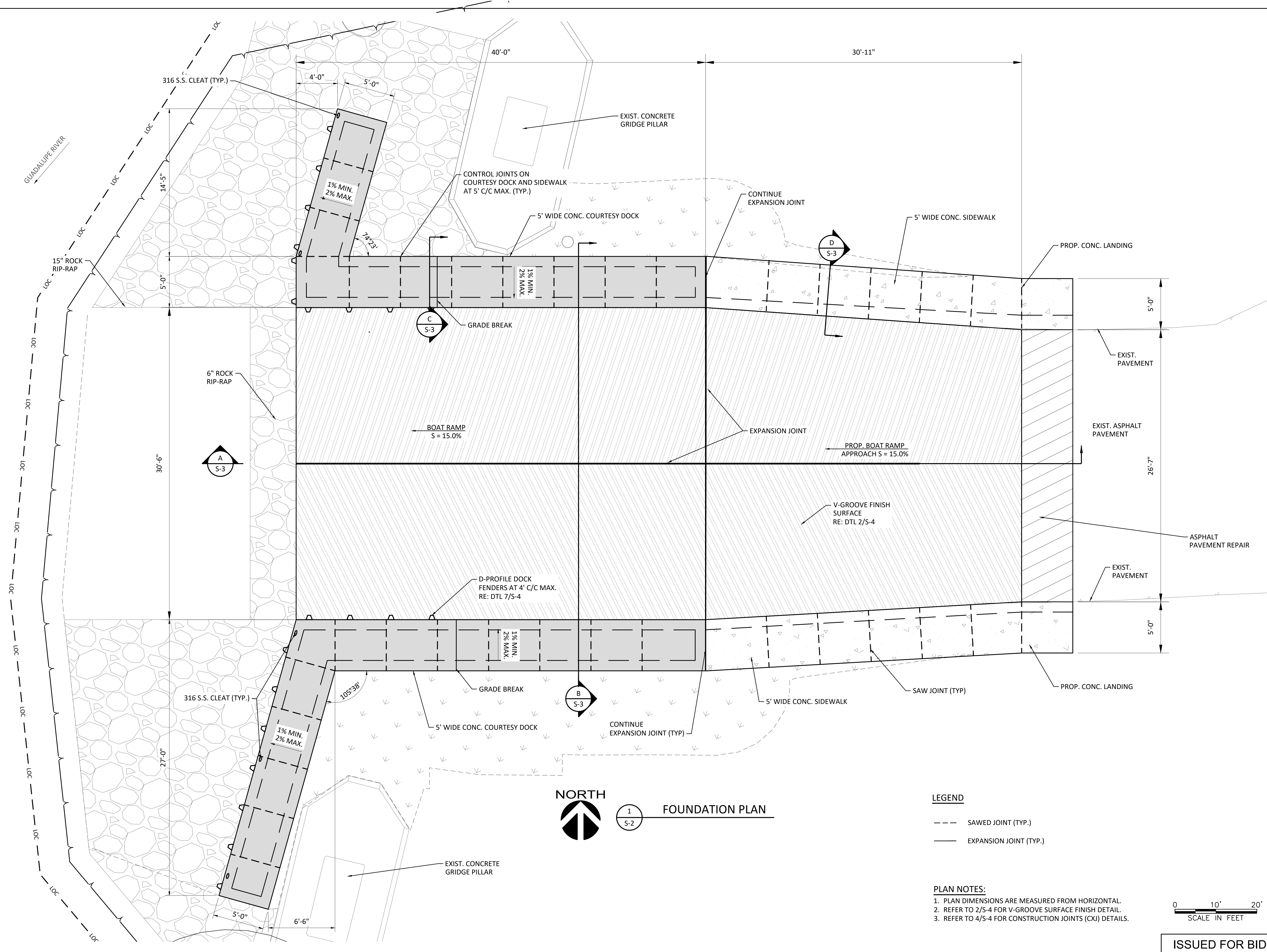
SHEET TITLE
STRUCTURAL
GENERAL NOTES

SHEET NUMBER

S-1

9 OF 12

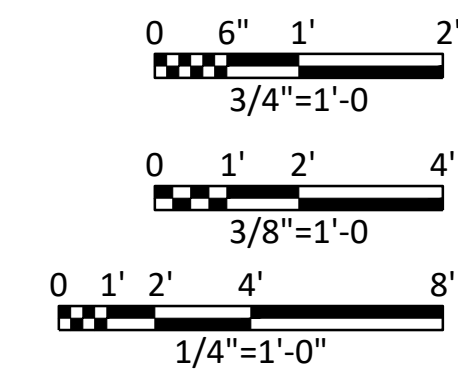
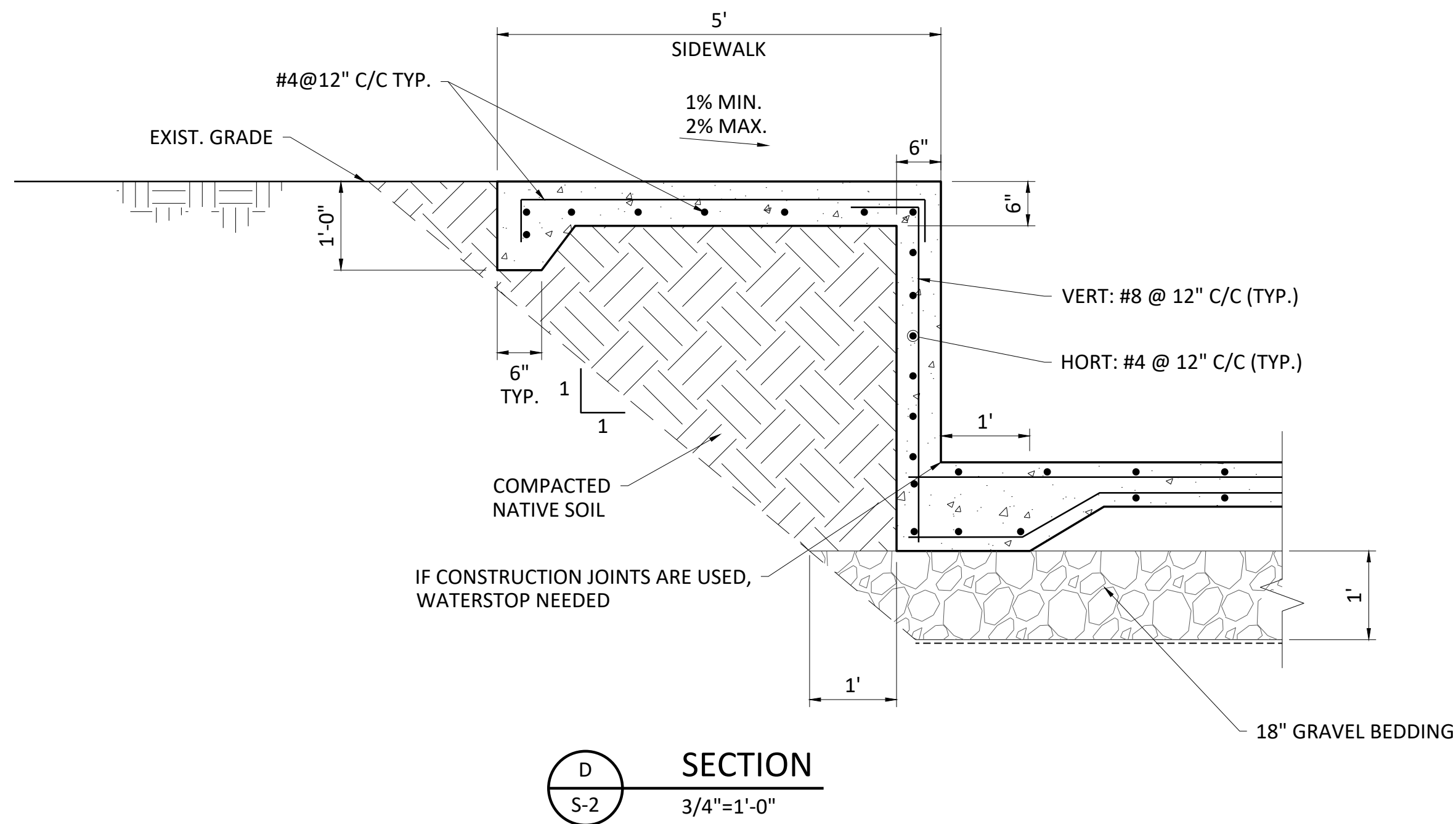
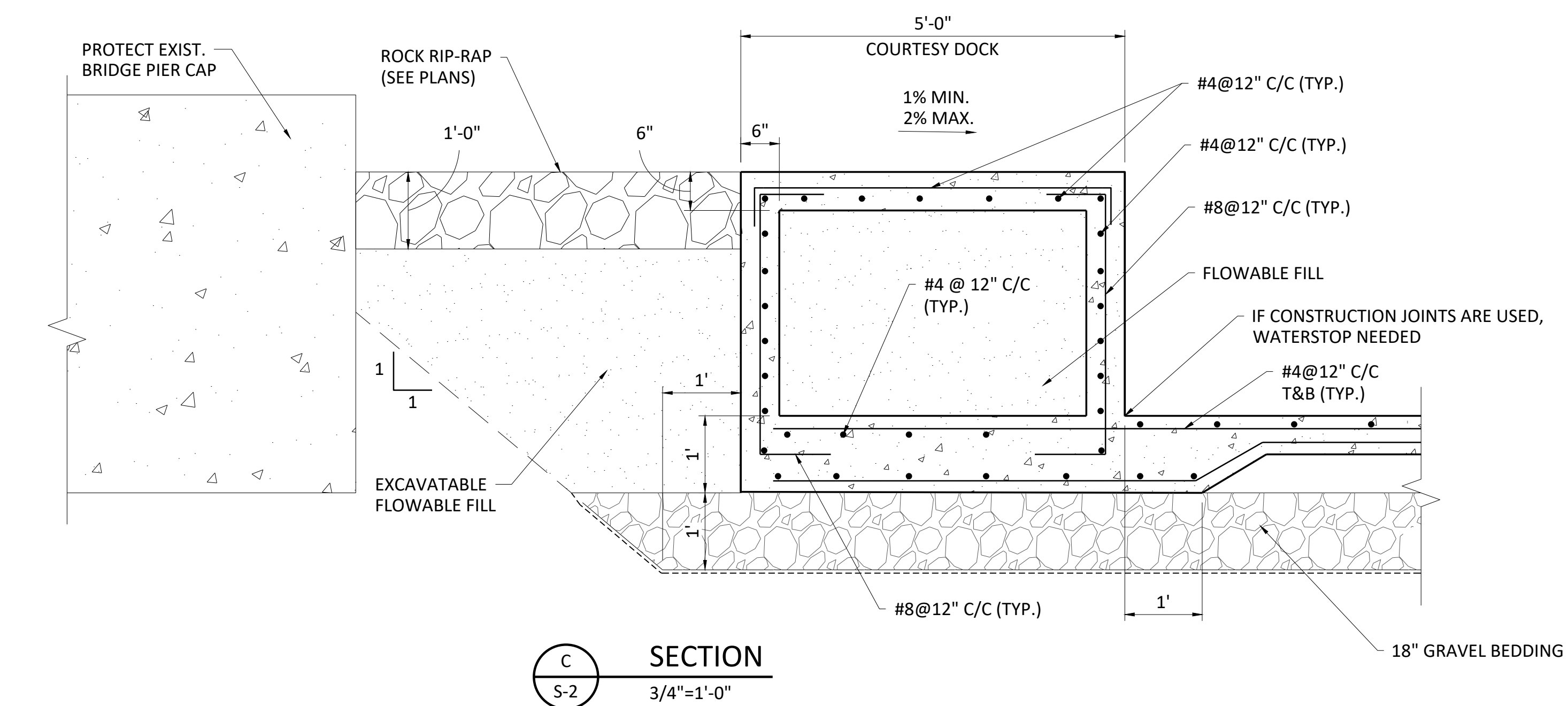
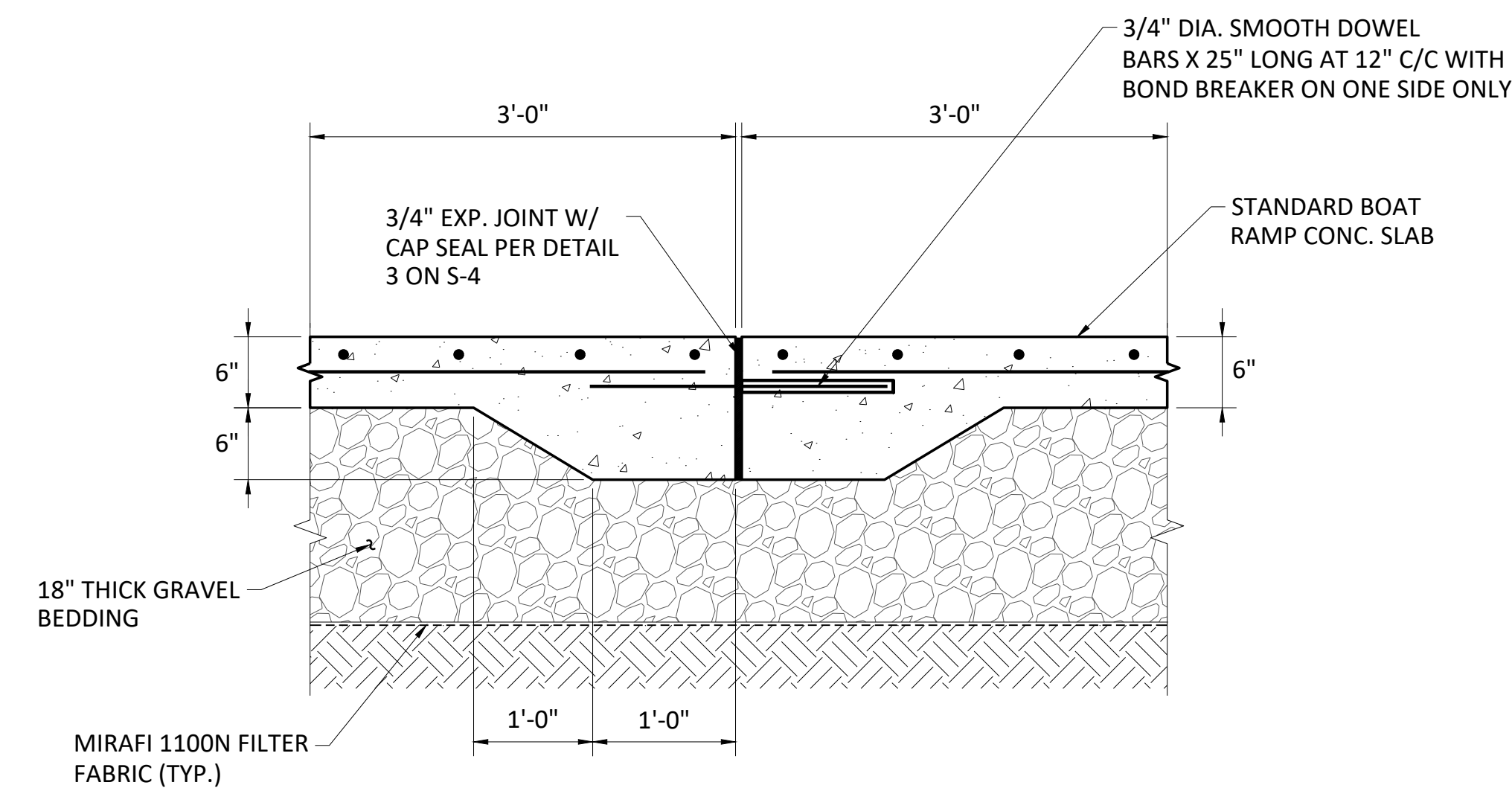
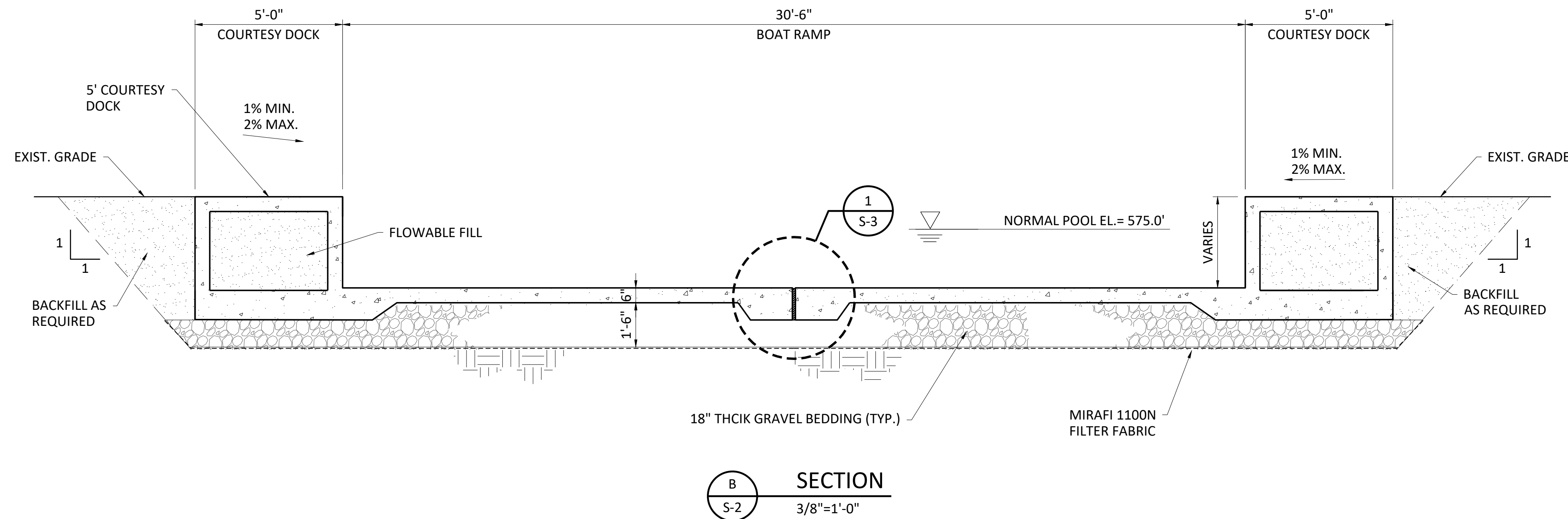
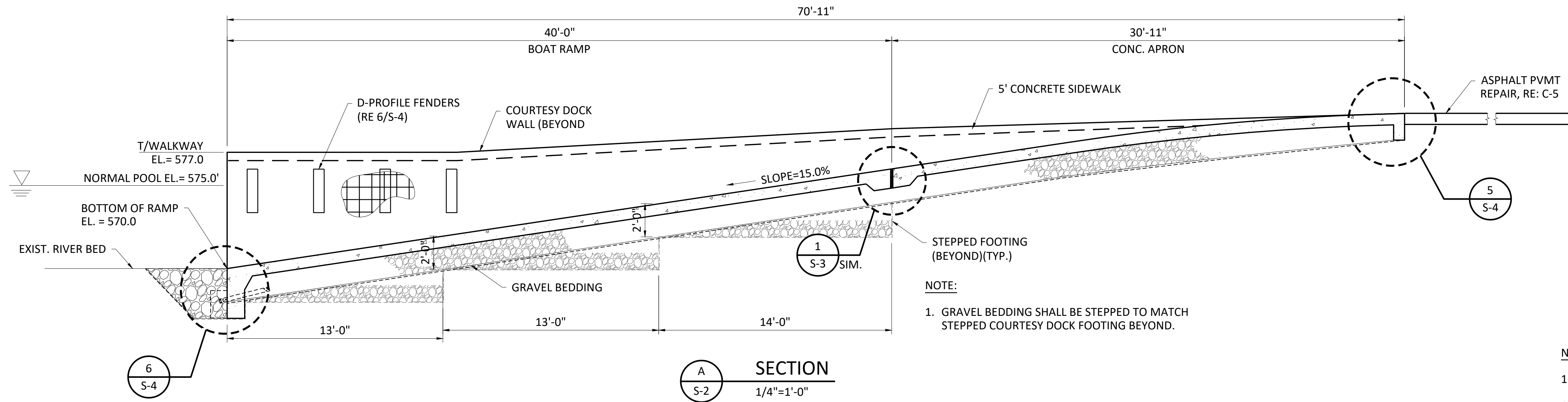
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GRAVEL BEDDING GRADATION (TXDOT ITEM 432)	
SIEVE SIZE	PERCENT PASSING, BY WEIGHT
3 INCH	100
1½ INCH	50 - 80
¾ INCH	20 - 60
No. 4	0 - 15
No. 40	0 - 5

STONE RIPRAP GRADATION (TXDOT THICKNESS 15 INCH)		
PERCENT SMALLER THAN	MIN (INCH)	MIN (INCH)
100	-	16.1
90	13.04	15.75
50	9.21	12.91
8	6.39	-

- NOTES:
- PLAN STONE RIPRAP PLACEMENT CAREFULLY WHEN ADJACENT TO CONCRETE SURFACES. DO NOT DAMAGE CONCRETE WITH STONE PLACEMENT.
 - STONE RIPRAP AND BEDDING MATERIAL SHALL BE IN ACCORDANCE WITH 2014 TXDOT STANDARD SPECIFICATION ITEM 432, PROTECTION STONE RIPRAP.



ISSUED FOR BID

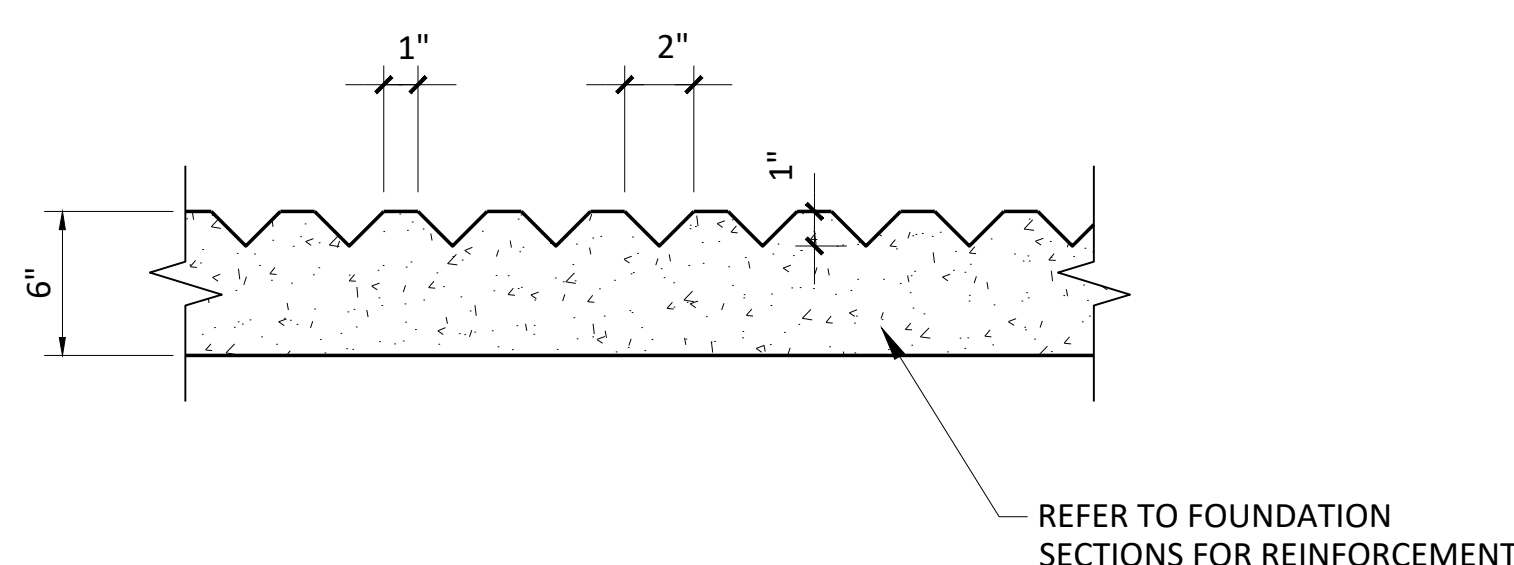


1. USE CONVENTIONAL SAW TO CUT JOINTS AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT AGGREGATES FROM BEING DISLODGED BY THE SAW.

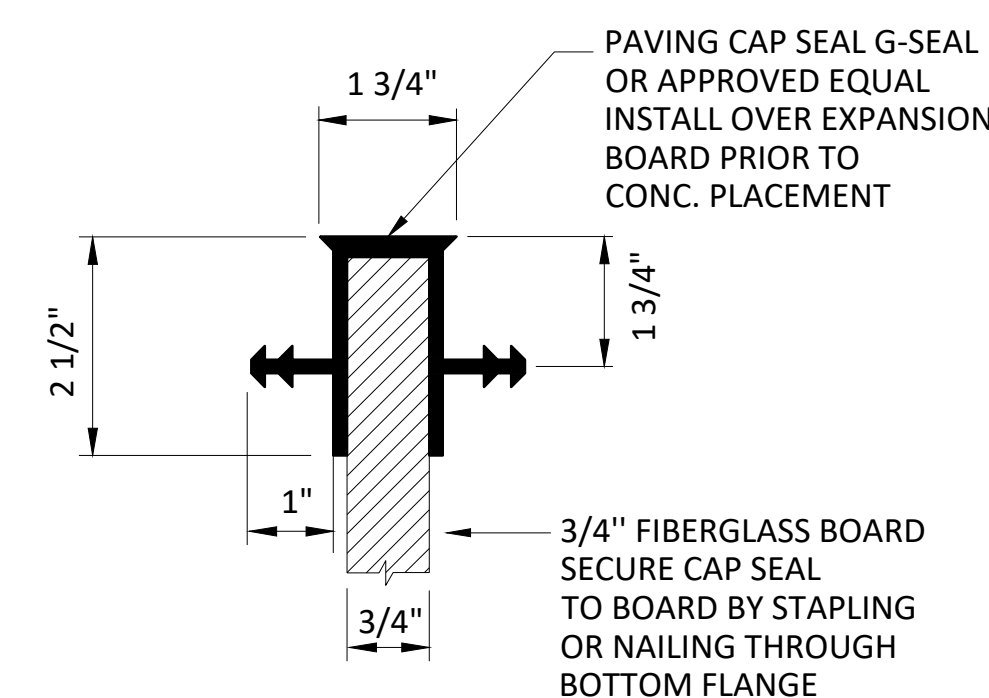
1 CONTROL JOINT DETAIL
S-4 NOT TO SCALE

- NOTES:

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST PROVIDE A 5'x5' MINIMUM TEST SECTION OF THE PAVEMENT FINISH FOR TPWD REVIEW AND APPROVAL PRIOR TO CONSTRUCTION OF THE BOAT RAMP PAVEMENT.
2. V-GROOVE FINISH SHALL BE AT 60° ANGLE FROM CENTER LINE OF BOAT RAMP.



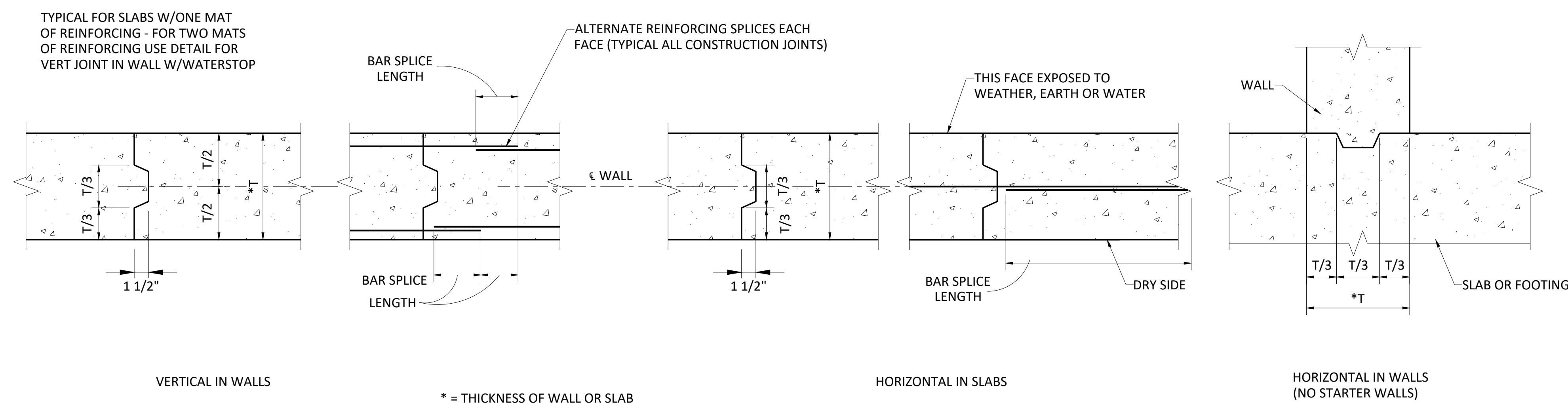
2 V-GROOVE SURFACE FINISH DETAIL
S-4 NOT TO SCALE



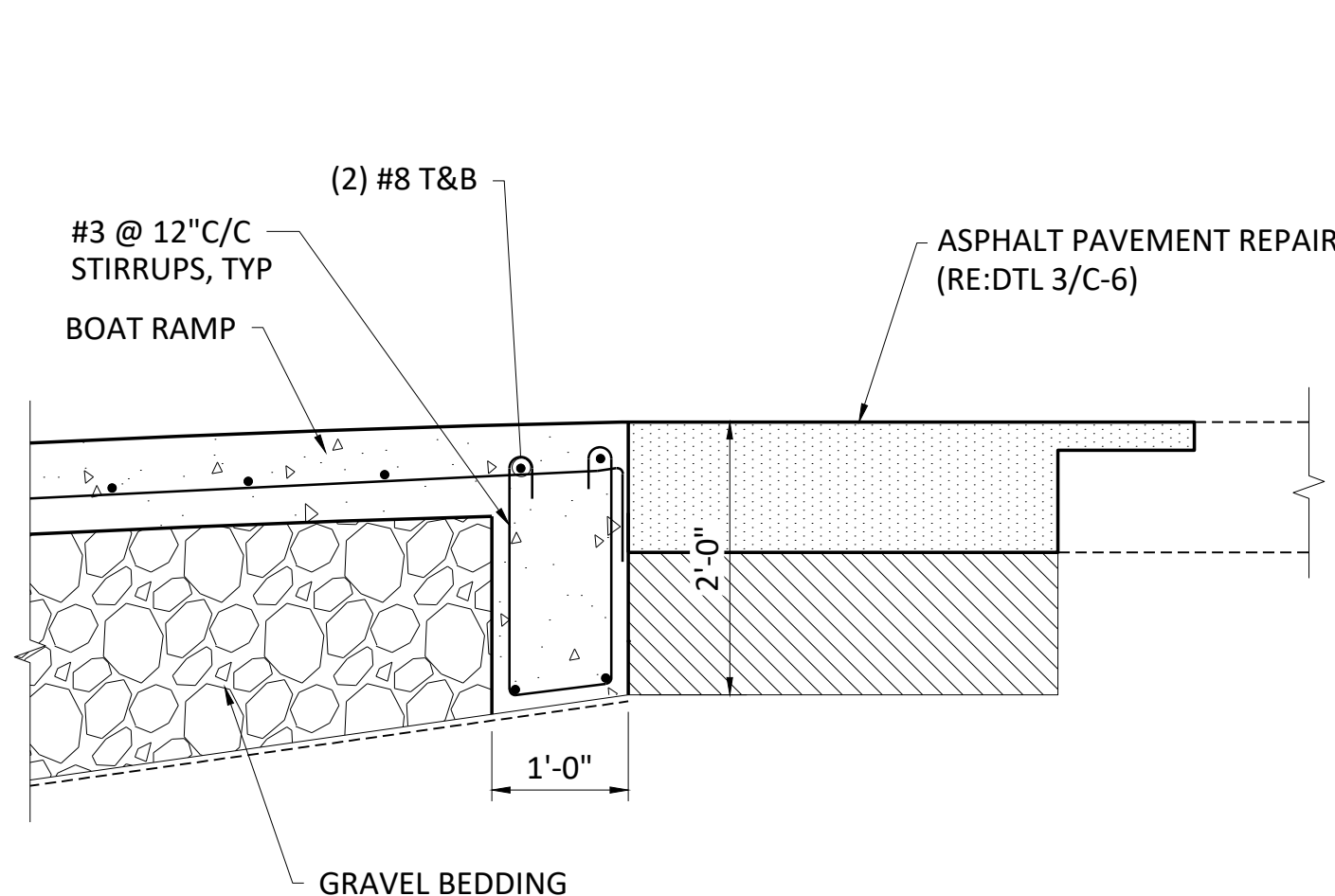
3
S-4

CAP SEAL DETAIL

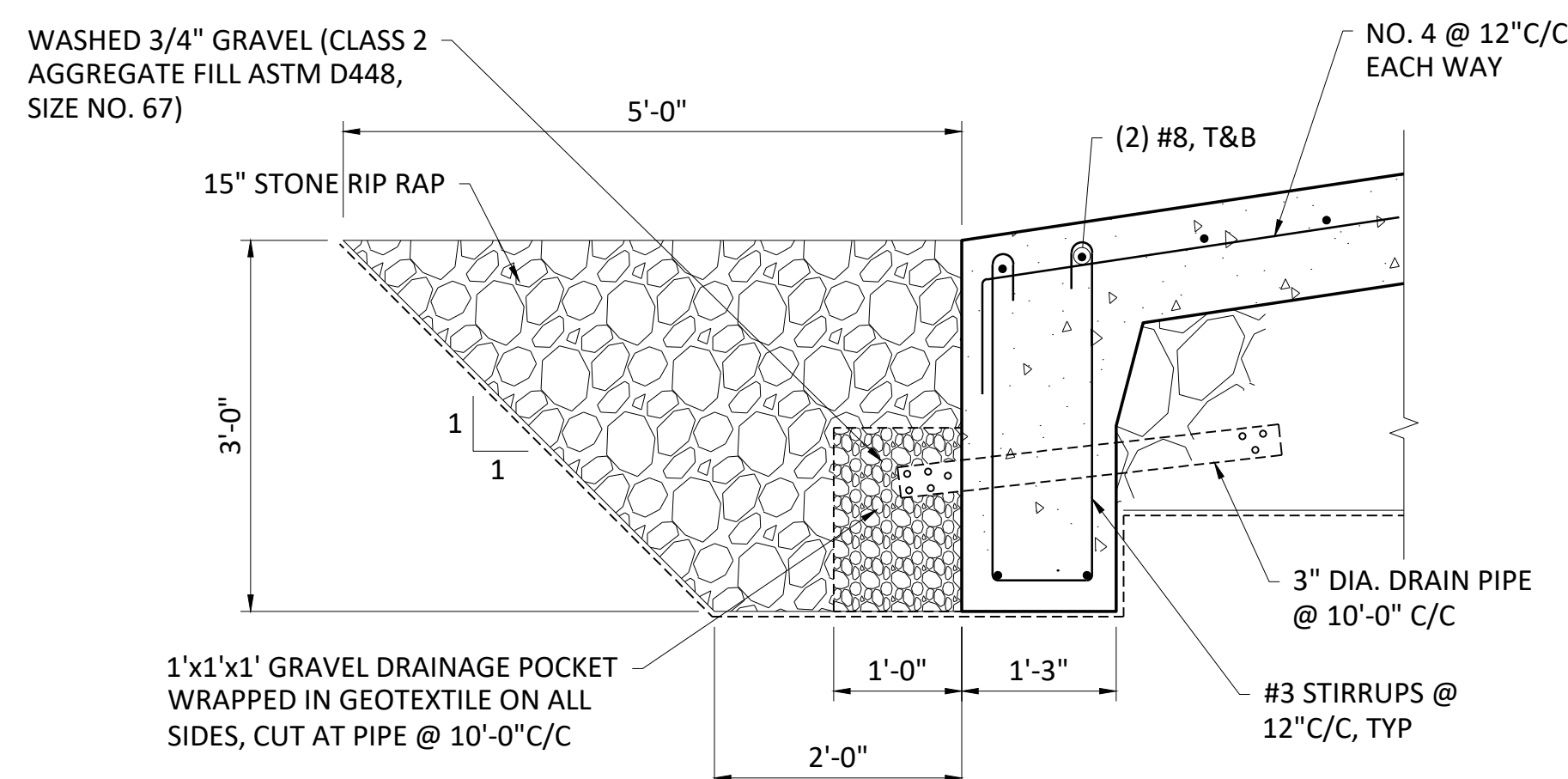
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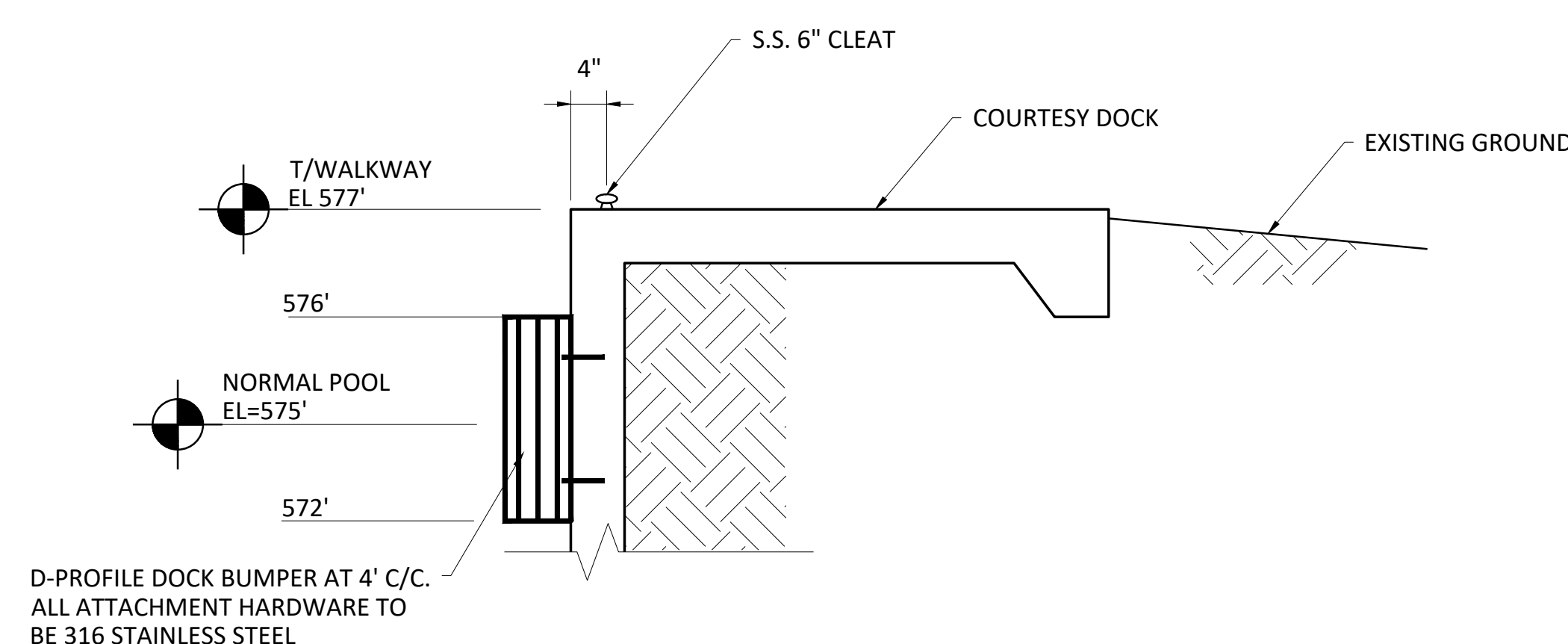
4 CONSTRUCTION JOINTS DETAILS
S-4 NOT TO SCALE



5 HEEL GRADE BEAM DETAIL
S-3 3/4"=1'-0"



6 TOE GRADE BEAM DETAIL
S-3 3/4"=1'-0"



7
S-2

FENDER SECTION

NOT TO SCALE